KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C450

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this Service Manual is complete and accurate.
The user of this Service Manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this Service Manual is intended.
Therefore, this Service Manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this Service Manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠ DANGER", "⚠ WARNING", and "⚠ CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

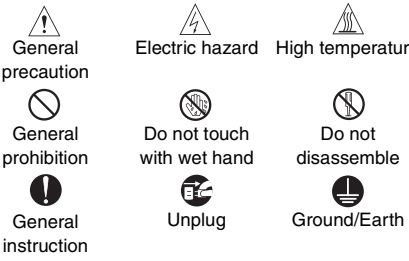
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when servicing the product.

⃠ :Prohibition when servicing the product.

● :Direction when servicing the product.



SAFETY WARNINGS

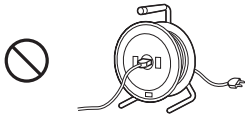
[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

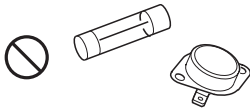
Prohibited Actions

⚠ DANGER

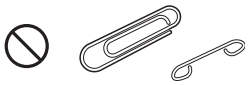
- Using any cables or power cord not specified by KMBT.



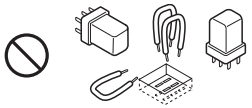
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



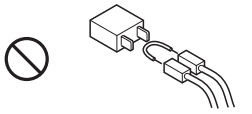
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

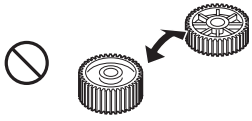


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



[2] POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.

- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown: L (line)
  - White or Light Blue: N (neutral)
  - Green/Yellow: PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

[3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

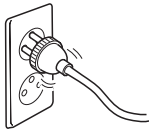
- Check that mains voltage is as specified.
  Connection to wrong voltage supply may result in fire or electric shock.

- Connect power plug directly into wall outlet having same configuration as the plug.
  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.
  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.

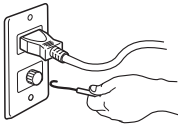
- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.
  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



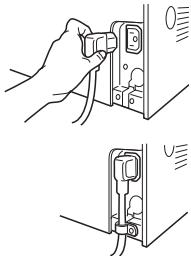
- Check whether the product is grounded properly.
  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.
  Connect power plug to grounded wall outlet.



Power Plug and Cord

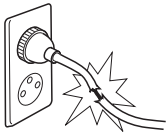
⚠ WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.

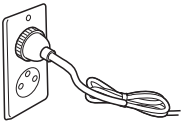


- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.

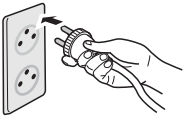
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

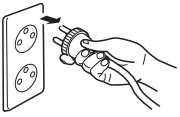


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.

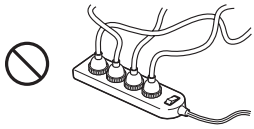


Wiring

⚠ WARNING

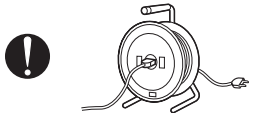
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

  Do not use an extension cable reel with the cable taken up. Fire may result.



2. Installation Requirements

Prohibited Installation Places

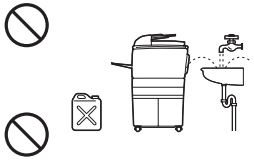
⚠ WARNING

- Do not place the product near flammable materials or volatile materials that may catch fire.

  A risk of fire exists.

- Do not place the product in a place exposed to water such as rain.

  A risk of fire and electric shock exists.

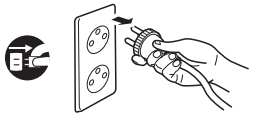


When not Using the Product for a long time

⚠ WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.

  Dust collected around the power plug and outlet may cause fire.



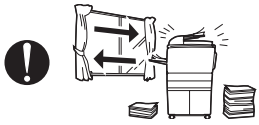
Ventilation

⚠ CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time



Stability

⚠ CAUTION

- Be sure to lock the caster stoppers.

  In the case of an earthquake and so on, the product may slide, leading to a injury.

Inspection before Servicing

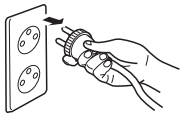
⚠ CAUTION

- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

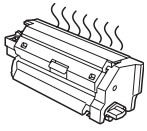
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



- The area around the fixing unit is hot.

  You may get burnt.

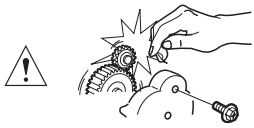


Work Performed with the Product Powered On

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

Safety Checkpoints

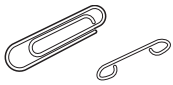
⚠ WARNING

- Check the exterior and frame for edges, burrs, and other damage.

  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.

  They can short internal circuits and cause electric shock or fire.



- Check wiring for squeezing and any other damage.

  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.

  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.

  Current can leak, leading to a risk of electric shock or fire.

Safety Checkpoints

⚠ WARNING

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.

  Current can leak, leading to a risk of trouble or fire.

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.

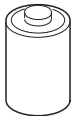
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

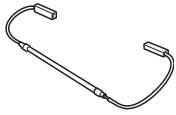
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



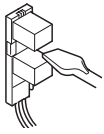
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

  A risk of fire exists.



- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Current can leak, leading to a risk of electric shock or fire.

Safety Checkpoints

⚠ WARNING

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, electric shock, and fire exists.

Handling of Consumables

⚠ WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.

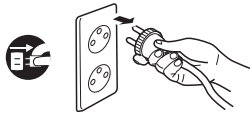
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

- Unplug the power cord from the wall outlet.

  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

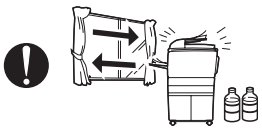
  A risk of fire exists.

Handling of Service Materials

⚠ CAUTION

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.
  A risk of fire exists.

- When using any solvent, ventilate the room well.
  Breathing large quantities of organic solvents can lead to discomfort.



[4] Used Batteries Precautions

ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

France

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

[5] FUSE

CAUTION
Double pole / neutral fusing

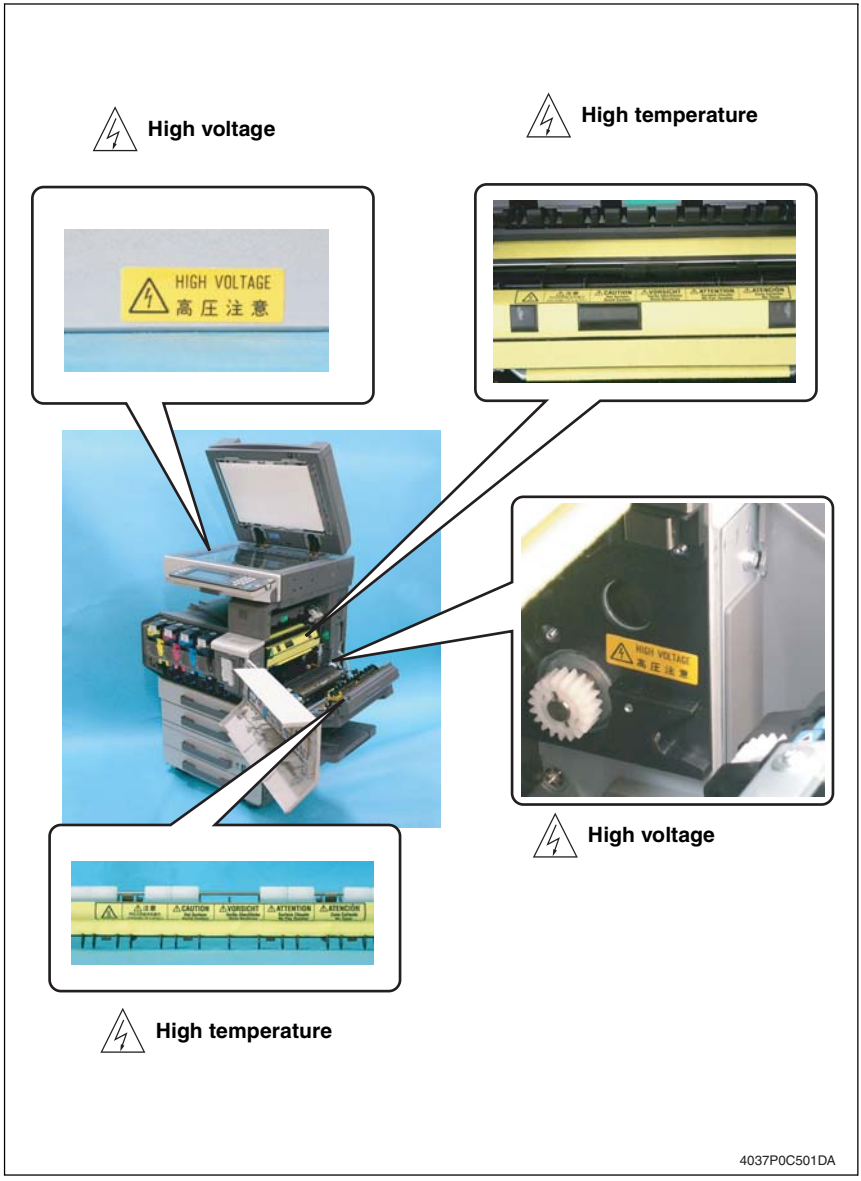
ATTENTION
Double pôle / fusible sur le neutre.

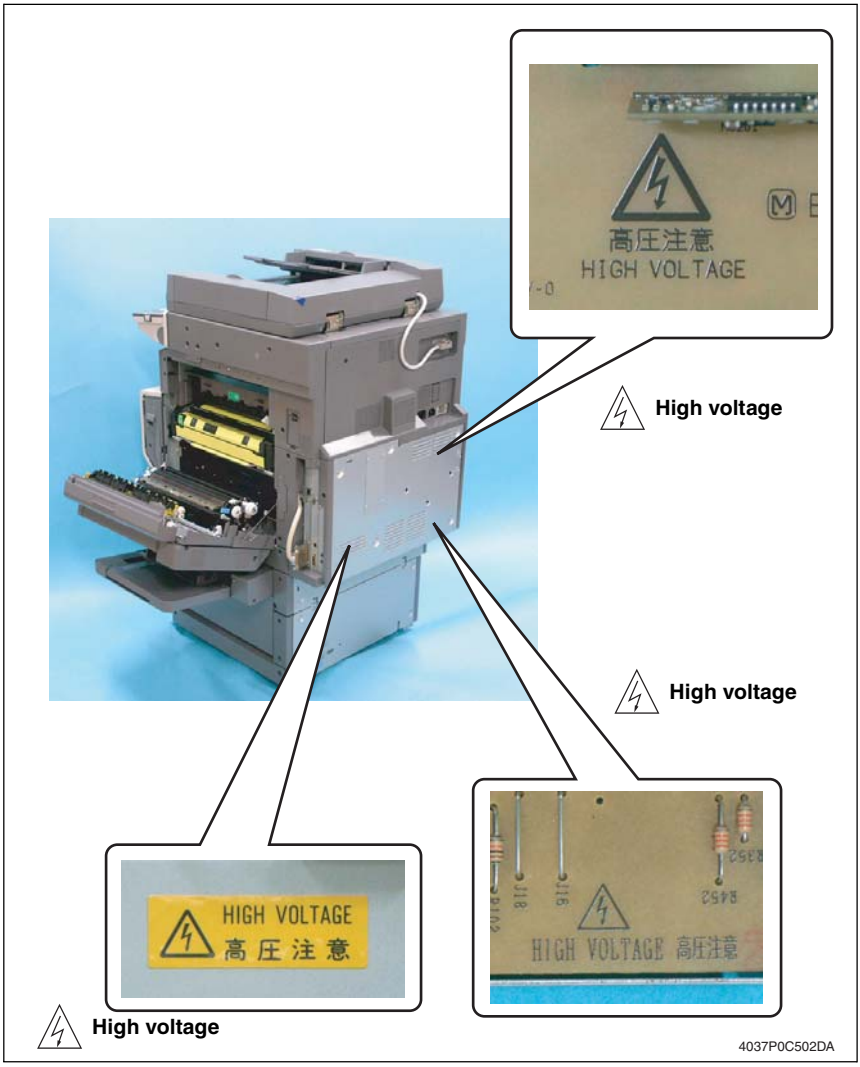
[6] LED Radiation Safety

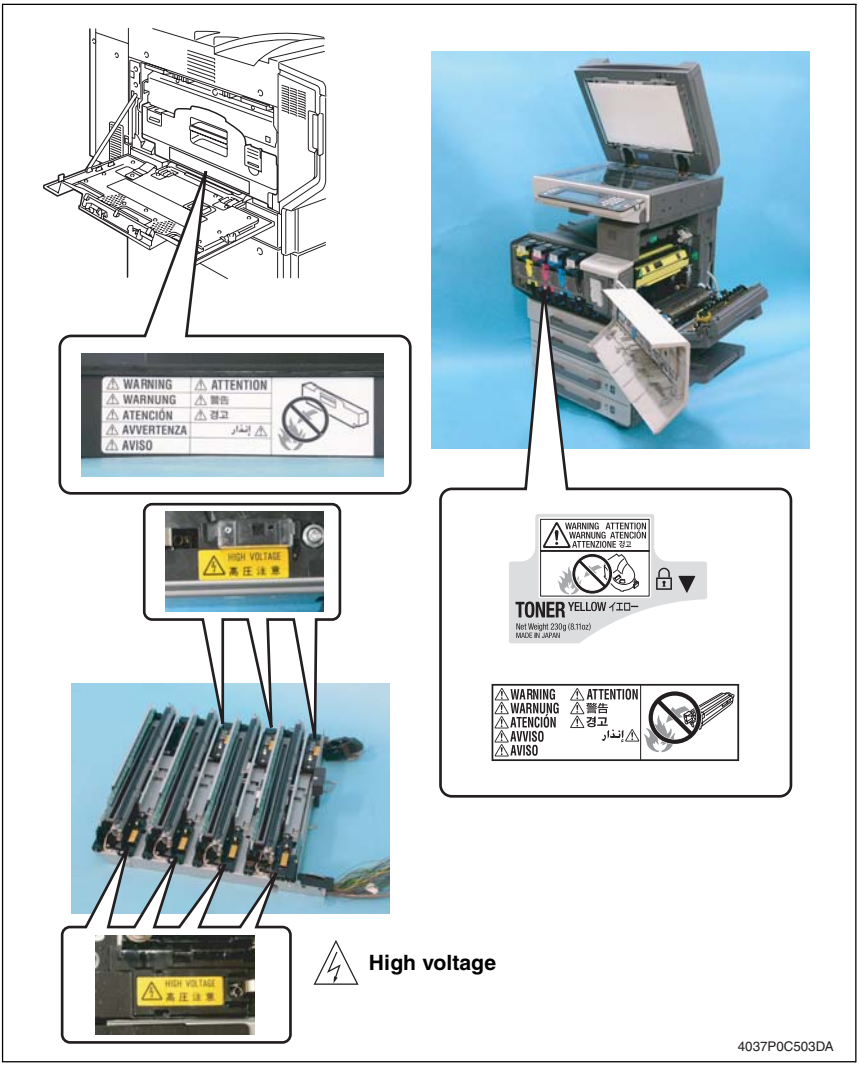
- This product is a copier which operates by means of a LED (light emitting diodes) exposure system. There is no possibility of danger from the LED optical radiation, because the LED optical radiation level dose not exceed the accessible radiation limit of class 1 under all conditions of operation, maintenance, service and failure.

WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.




高圧注意
HIGH VOLTAGE
High voltage
High voltage
HIGH VOLTAGE
高 圧 注 意
HIGH VOLTAGE 高圧注意
High voltage
4037P0C502DA



⚠ CAUTION:

- **You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our Service Office.**

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C450

Main Unit

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show 1 to the left of the revised section.
  A number within 1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show 1 in the lower outside section of the corresponding page.
  A number within 1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. System configuration 1
2. Product specifications 3
2.1 Type 3
2.2 Functions 3
2.3 Types of Paper 4
2.4 Maintenance 4
2.5 Machine Specifications 4
2.6 Operating Environment 5
2.7 Built-in Controllers 5

Maintenance

3. Periodical check 7
3.1 Service schedule 7
3.2 Maintenance items 7
3.2.1 Parts to be replaced by users (CRU) 7
3.2.2 Maintenance call (per 60,000-print) 8
3.2.3 Periodical parts replacement 1 (per 150,000-print) 8
3.2.4 Periodical parts replacement 2 (per 200,000-print) 8
3.2.5 Periodical parts replacement 3 (per 300,000-print) 9
3.3 Maintenance parts 10
3.3.1 Replacement parts 10
3.3.2 Cleaning parts 11
3.4 Concept of parts life 12
3.5 Maintenance procedure (Periodical check parts) 14
3.5.1 Replacing the Tray 1 Paper Take-up Roller 14
3.5.2 Replacing the Tray 1 Separation Roller Assy 14
3.5.3 Replacing the Bypass Tray Paper Take-up Roller 15
3.5.4 Replacing the Bypass Tray Separation Roller Assy 17
3.5.5 Replacing the Tray 2 Separation Roller 17
3.5.6 Replacing the Tray 2 Paper Take-up Roller 19
3.5.7 Replacing the Tray 2 Pick-up Roller 21
3.5.8 Cleaning of Registration Roller 22
3.5.9 Paper Dust Remover 23
3.5.10 Cleaning of Transport Roller 23
3.5.11 Cleaning of 2nd Image Transfer Entrance Upper Guide 24

3.5.12 Replacing the Waste Toner Box ... 24
3.5.13 Cleaning of the Area around the Waste Toner Collecting Port ... 25
3.5.14 Replacing Ozone Filter ... 25
3.5.15 Cleaning of the Comb Electrode ... 26
3.5.16 Cleaning LPH Assy ... 26
3.5.17 Replacement of the Deodorant Filter ... 27
3.5.18 Replacement of the Dust Filter ... 27
3.6 Replacing the unit ... 27
3.6.1 Replacing the 2nd Image Transfer Roller Unit ... 27
3.6.2 Image Transfer Belt Unit ... 28
3.6.3 Replacing the Imaging Unit (C, M, Y, K) ... 31
3.6.4 Replacing the Fusing Unit ... 34
4. Service tool ... 35
4.1 CE Tool list ... 35
4.2 Copy materials ... 36
4.2.1 Imaging Unit Single Parts (IU) ... 36
4.2.2 Toner Cartridge Single Parts (T/C) ... 36
4.2.3 Waste Toner Box ... 36
4.2.4 Maintenance Kit ... 36
5. Firmware upgrade ... 37
5.1 Preparations for Firmware rewriting ... 37
5.1.1 Service environment ... 37
5.1.2 Application to be used ... 37
5.1.3 Installing the Cygwin ... 37
5.1.4 Writing into the Compact flash ... 41
5.2 Firmware rewriting ... 44
5.2.1 Updating method ... 44
5.2.2 Action When Data Transfer Fails ... 45
6. Other ... 46
6.1 Disassembly/Adjustment prohibited items ... 46
6.2 Disassembly/Assembly/Cleaning list (Other parts) ... 47
6.2.1 Disassembly/Assembly parts list ... 47
6.2.2 Cleaning parts list ... 49
6.3 Disassembly/Assembly procedure ... 50
6.3.1 IR Right Cover/Front Right Cover/Bypass Right & Left Cover ... 50
6.3.2 Exit Tray/IR Left Cover/Rear Left Cover/Left Front Cover ... 51
6.3.3 Front Door/Panel Cover/Tray 1 Front Right Cover ... 52

6.3.4 Lower Rear Cover/Tray 2 Rear Cover/Rear Cover/Rear Right Cover/ Tray 2 Rear Right Cover/Wiring Cover 52
6.3.5 IR Upper Front Cover/IR Upper Right Cover/IR Upper Rear Cover 53
6.3.6 Original Glass/IR Front Cover 54
6.3.7 Control Panel (UN201) 55
6.3.8 Tray 1 56
6.3.9 Tray 2 57
6.3.10 Scanner Motor Drive Board (PWB-IC) 57
6.3.11 CCD Unit 58
6.3.12 Image Processing Board (PWB-C) 59
6.3.13 Copier Board (PWB-CF) 61
6.3.14 LAN Board (PWB-LAN) 62
6.3.15 Standard Memory (D_FILE0) 63
6.3.16 Hard Disk Drive (HDD) 63
6.3.17 Electronic Sorting Board (PWB-ES) 64
6.3.18 MFP Control Board (PWB-MFPC) 65
6.3.19 Control Board (PWB-MC) 66
6.3.20 Slide Interface Board (PWB-SIF) 67
6.3.21 High Voltage Unit/1 (HV1) 69
6.3.22 High Voltage Unit/2 (HV2) 70
6.3.23 Tray 1 Paper Size Board (PWB-I1) 71
6.3.24 DC Power Supply (PU1) 71
6.3.25 LED Drive Board (PWB-LED) 73
6.3.26 Tray 2 Board (PWB-Z) 74
6.3.27 Tray 2 Paper Size Board (PWB-I2) 74
6.3.28 Inverter Board (PU201) 75
6.3.29 Multi Bypass Unit 76
6.3.30 Toner Hopper Unit 77
6.3.31 LPH Unit 79
6.3.32 Scanner Motor (M201) 82
6.3.33 Scanner Assy 84
6.3.34 Scanner Drive Cables 85
6.3.35 Winding of the Scanner Drive Cables 87
6.3.36 PWB Unit 92
6.3.37 PWB Box 93
6.3.38 Main Motor (M1) 96
6.3.39 Fusing Drive Motor (M2) 96
6.3.40 Toner Supply Motor C/K (M3) 97

6.3.41 Toner Supply Motor Y/M (M4) ... 98
6.3.42 Tray 2 Lift-Up Motor (M101) ... 98
6.3.43 Tray 2 Paper Feed Motor (M102) ... 99
6.3.44 Tray 2 Vertical Transport Motor (M103) ... 100
6.3.45 Color PC Drum Motor (M5) ... 101
6.3.46 Color Developing Motor (M6) ... 103
6.3.47 K PC Motor (M7) ... 104
6.3.48 1st Image Transfer Pressure/Retraction Motor (M11) ... 105
6.3.49 2nd Image Transfer Pressure/Retraction Motor (M13) ... 106
6.3.50 Intermediate Transport Motor (M14) ... 107
6.3.51 Fusing Pressure Roller Pressure/Retraction Motor (M19) ... 109
6.3.52 Cleaning Brush Motor (M22) ... 112
6.3.53 IDC/Registration Sensor/1,2 (PC8/PC9) ... 114
6.3.54 LPH ... 115
6.3.55 TCR Sensor Y/M/C (PWB-N1/-N2/-N3) ... 119
6.4 Cleaning procedure ... 120
6.4.1 Tray 1 Paper Take-up Roller ... 120
6.4.2 Tray 1 Separation Roller ... 120
6.4.3 Bypass Tray Paper Take-up Roller ... 121
6.4.4 Bypass Tray Separation Roller ... 121
6.4.5 Tray 2 Paper Take-up Roller ... 122
6.4.6 Tray 2 Pick-up Roller ... 122
6.4.7 Tray 2 Separation Roller ... 122
6.4.8 Tray 2 Transport Roller ... 124
6.4.9 Scanner Rail ... 124
6.4.10 Mirrors (1st/2nd/3rd) ... 125
6.4.11 Lens ... 125
6.4.12 Original Glass ... 126
6.4.13 CCD Sensor ... 126
6.5 Mount the original size detecting sensor FD2 (PC204) ... 127
6.6 Option counter ... 129
6.6.1 Installation of The Counter/K ... 129
6.6.2 Installation method for the Key Counter ... 130

Adjustment/Setting

7. How to use the adjustment section ... 133
8. Utility Mode ... 134
8.1 Touch Panel Adj. ... 134

8.2 Utility Mode function tree 135
8.3 Utility Mode function setting procedure 149
8.3.1 Procedure 149
8.3.2 Exiting 149
8.3.3 Changing the setting value in Utility Mode functions 149
8.4 One-Touch Registration 150
8.4.1 Scan 150
8.4.2 Fax 151
8.4.3 User Box 152
8.5 User Setting 153
8.5.1 System Setting 153
8.5.2 Display Setting 155
8.5.3 Initial Setting 158
8.5.4 Copier Setting 158
8.5.5 Scanner Setting 160
8.5.6 Printer Setting 161
8.6 Administrator Setting 165
8.6.1 System Setting 165
8.6.2 Administrator/Machine Setting 183
8.6.3 One-Touch Registration 183
8.6.4 User Authentication/Account Track 187
8.6.5 Network Setting 189
8.6.6 Copier Setting 204
8.6.7 Printer Setting 205
8.6.8 Fax Setting 206
8.6.9 System Connection 212
8.6.10 Security Setting 213
9. Adjustment item list 216
10. Service Mode 218
10.1 Service Mode function setting procedure 218
10.2 Service Mode function tree 219
10.3 Date/Time Input mode 222
10.3.1 Date/Time Input mode screen 222
10.4 Machine 223
10.4.1 Fusing Nip 223
10.4.2 Fusing Temperature 224
10.4.3 Fusing Transport Speed 225
10.4.4 Org. Detecting Sensor Adj. 225

10.4.5 Printer Area ... 226
10.4.6 Scan Area ... 230
10.4.7 Printer Resist Loop ... 233
10.4.8 Color Registration Adjustment ... 234
10.4.9 LPH Rank ... 236
10.4.10 LPH Chip Adjust ... 237
10.4.11 Manual Bypass Tray Adjustment ... 238
10.4.12 Lead Edge Erase Adjustment ... 238
10.4.13 Cooling Fan Speed ... 238
10.5 Firmware Version ... 238
10.6 Imaging Process Adjustment ... 239
10.6.1 Gradation Adjust ... 239
10.6.2 Transfer Belt ... 240
10.6.3 Cleaning Bias ... 241
10.6.4 Auto Cleaning ... 241
10.6.5 IDC Table Revice ... 241
10.6.6 D Max Density ... 242
10.6.7 TCR Level Setting ... 242
10.6.8 Background Voltage Margin ... 243
10.6.9 Transfer Adjust ... 243
10.6.10 Stabilizer ... 244
10.6.11 Thick Paper Density Adjustment ... 245
10.6.12 Thin Paper Duplex Mode ... 245
10.6.13 TCR Toner Supply ... 245
10.6.14 Monochrome Density Adjustment ... 246
10.6.15 Dev. Bias Choice ... 246
10.7 CS Remote Care ... 247
10.7.1 Outlines ... 247
10.7.2 Setting Up the CS Remote Care ... 247
10.7.3 Software SW setting for CS Remote Care ... 249
10.7.4 Setup confirmation ... 254
10.7.5 Calling the Maintenance ... 254
10.7.6 Calling the Center from the Administrator ... 255
10.7.7 Checking the transmission log ... 255
10.7.8 Detail on settings ... 255
10.7.9 List of the CS Remote Care error code ... 258
10.7.10 Troubleshooting for CS Remote Care ... 259
10.8 System 1 ... 260

10.8.1 Marketing Area 260
10.8.2 Tel/Fax Number 260
10.8.3 Serial Number 260
10.8.4 No Sleep 260
10.8.5 Original Size Detection 261
10.8.6 Foolscap Size Setting 261
10.8.7 Initialization 261
10.8.8 Install Date 262
10.9 System 2 262
10.9.1 HDD 262
10.9.2 Image Controller Setting 263
10.9.3 Option Board Status 263
10.9.4 Consumable Life Reminder 264
10.9.5 Unit Change 264
10.9.6 Software Switch Setting 264
10.9.7 Scan Caribration 264
10.9.8 LCT Paper Size Setting 265
10.9.9 Line Mag Setting 265
10.9.10 Data Capture 266
10.10 Counter 269
10.10.1 Procedure 269
10.10.2 Life 269
10.10.3 Jam 270
10.10.4 Service Call Counter 270
10.10.5 Warning 270
10.10.6 Maintenance 270
10.10.7 Service Total 271
10.10.8 Counter of Each Mode 271
10.10.9 Service Call History (Data) 271
10.10.10 ADF Paper Pages 271
10.10.11 Paper Jam History 271
10.10.12 Fax Connection failed 271
10.11 List Output 272
10.11.1 Machine Management List 272
10.11.2 Adjustment List 272
10.11.3 Parameter 272
10.11.4 Service Parameter 272
10.11.5 Protocol Trace 272

10.11.6 Fax Setting List 272
10.12 State Confirmation 273
10.12.1 Sensor Check 273
10.12.2 Table Number 282
10.12.3 Level History1 283
10.12.4 Level History2 283
10.12.5 Temp. & Humidity 283
10.12.6 CCD Check 283
10.12.7 Memory / HDD Adj. 284
10.12.8 Memory/HDD State 286
10.12.9 Color Regist 286
10.12.10 IU Lot No. 286
10.12.11 LPH Status 286
10.12.12 Adjustment Data List 286
10.13 Test Mode 287
10.13.1 Procedure for Test Pattern Output 287
10.13.2 Gradation Pattern 287
10.13.3 Halftone Pattern 288
10.13.4 Lattice Pattern 288
10.13.5 Solid Pattern 289
10.13.6 Color Sample 289
10.13.7 8 Color Solid Pattern 290
10.13.8 LPH Pattern 290
10.13.9 Running Mode 290
10.13.10 Fax Test 291
10.14 ADF 291
10.15 FAX 291
10.16 Finisher 291
11. Enhanced Security 292
11.1 Enhanced Security Function Setting Procedure 292
11.1.1 Procedure 292
11.1.2 Exiting 292
11.2 Enhanced Security Function Tree 292
11.3 Settings in the Enhanced Security 293
11.3.1 CE Password 293
11.3.2 Administrator Password 293
11.3.3 Administrator Feature Level 294
11.3.4 CE Authentication 294

11.3.5 IU Life Stop Setting 294
12. Billing Setting 295
12.1 Billing Setting Function Setting Procedure 295
12.1.1 Procedure 295
12.1.2 Exiting 295
12.2 Billing Setting Function Tree 295
12.3 Settings in the Billing Setting 296
12.3.1 Counter Setting 296
12.3.2 Management Function Choice 297
12.3.3 Coverage Rate Clear 298
13. Procedure for Resetting 299
13.1 Trouble resetting 299
13.2 Contents to be cleared by Reset function 299
14. Mechanical adjustment 300
14.1 Mechanical adjustment of the scanner section 300
14.1.1 Adjustment of the Scanner Motor Belt 300
14.1.2 Focus Positioning of the Scanner and Mirrors Unit 301
14.2 Scanner Position Adjustment 301
14.3 Mechanical adjustment of the bypass tray section 302
14.3.1 Adjustment of the Bypass Paper Size Unit 302

Troubleshooting

15. Jam Display 305
15.1 Misfeed Display 305
15.1.1 Misfeed Display Resetting Procedure 306
15.2 Sensor layout 307
15.2.1 System Mounted with PC-402. 307
15.2.2 System Mounted with PC-202. 308
15.3 Solution 309
15.3.1 Initial Check Items 309
15.3.2 Tray 1 take-up, 2nd Image Transfer, Fusing Misfeed 310
15.3.3 Tray 2 take-up, Vertical Transport, Multiple Bypass take-up 311
15.3.4 LCT Take-up and Vertical Transport Misfeed (PC-402) 313
15.3.5 Tray 3 Take-up and Vertical Transport Misfeed (PC-102/PC202) 314
15.3.6 Tray 4 Take-up and Vertical Transport Misfeed (PC202) 315
15.3.7 Duplex Transport Misfeed 316
15.3.8 Fusing/Exit Misfeed 317
16. Malfunction code 318
16.1 Restarting 318

16.2 Alert code 318
16.2.1 Alert list 319
16.3 Solution 320
16.3.1 S-1: CCD clamp/gain adjustment failure 320
16.3.2 P-5: IDC Sensor (Front) failure 320
16.3.3 P-28 IDC Sensor (Back) failure 320
16.3.4 P-6: Cyan Imaging Unit failure 321
16.3.5 P-7: Magenta Imaging Unit failure 321
16.3.6 P-8: Yellow Imaging Unit failure 321
16.3.7 P-9: Black Imaging Unit failure 321
16.3.8 P-21: Color Shift Test Pattern failure 321
16.3.9 P-22: Color Shift Adjust failure 321
16.3.10 P-26: 1st image transfer ATVC (Black) failure 322
16.3.11 P-27: 2nd image transfer ATVC failure 322
16.3.12 P-29: 1st image transfer ATVC (Color) failure 322
16.3.13 P-30: Color PC Drum Sensor malfunction 322
16.3.14 P-31: Black PC Drum Sensor malfunction 322
16.4 Trouble code 323
16.4.1 Trouble code list 323
16.5 How to reset 344
16.6 Solution 345
16.6.1 C0204: Tray 2 Elevator failure 345
16.6.2 C0211: Manual Bypass Paper Lifting Failure 345
16.6.3 C0301: Suction Fan Motor's failure to turn 346
16.6.4 C0351: Paper Cooling Fan Motor's failure to turn 346
16.6.5 C2151: 2nd Image Transfer Roller pressure/retraction failure 346
16.6.6 C2152: Image Transfer Belt pressure/retraction failure 347
16.6.7 C2160: Cyan PC Drum Charge Corona malfunction 347
16.6.8 C2161: Magenta PC Drum Charge Corona malfunction 347
16.6.9 C2162: Yellow PC Drum Charge Corona malfunction 347
16.6.10 C2163: Black PC Drum Charge Corona malfunction 347
16.6.11 C2164: PC Drum Charge Corona malfunction 347
16.6.12 C2251: K PC Motor failure to turn 348
16.6.13 C2252: K PC Motor turning at abnormal timing 348
16.6.14 C2253: Color PC Motor failure to turn 348
16.6.15 C2254: Color PC Motor turning at abnormal timing 349
16.6.16 C2255: Color Developing Motor failure to turn 349
16.6.17 C2256: Color Developing Motor turning at abnormal timing 349

16.6.18 C2257: Cleaning Brush Motor's failure to turn 350
16.6.19 C2258: Cleaning Brush Motor Turning at abnormal timing 350
16.6.20 C2351: Toner Suction Fan Motor/K's failure to turn 350
16.6.21 C2352: Toner Suction Fan Motor's failure to turn 351
16.6.22 C2451: New Transfer Cleaner Unit resetting failure 351
16.6.23 C3461: New Fusing Unit resetting failure 351
16.6.24 C2551: Abnormally low toner density detected Cyan TCR Sensor 352
16.6.25 C2553: Abnormally low toner density detected Magenta TCR Sensor 352
16.6.26 C2555: Abnormally low toner density detected Yellow TCR Sensor 352
16.6.27 C2552: Abnormally high toner density detected Cyan TCR Sensor 353
16.6.28 C2554: Abnormally high toner density detected Magenta TCR Sensor ... 353
16.6.29 C2556: Abnormally high toner density detected Yellow TCR Sensor 353
16.6.30 C2557: Abnormally low toner density detected Black TCR Sensor 353
16.6.31 C2558: Abnormally high toner density detected Black TCR Sensor 354
16.6.32 C2559: Cyan TCR Sensor adjustment failure 354
16.6.33 C255A: Magenta TCR Sensor adjustment failure 354
16.6.34 C255B: Yellow TCR Sensor adjustment failure 354
16.6.35 C255C: Black TCR Sensor adjustment failure 355
16.6.36 C2651: Cyan Imaging Unit EEPROM access error 355
16.6.37 C2652: Magenta Imaging Unit EEPROM access error 355
16.6.38 C2653: Yellow Imaging Unit EEPROM access error 355
16.6.39 C2654: Black Imaging Unit EEPROM access error 355
16.6.40 C2655: Cyan LPH correction data download failure 356
16.6.41 C2656: Yellow LPH correction data download failure 356
16.6.42 C2657: Magenta LPH correction data download failure 356
16.6.43 C2658: Black LPH correction data download failure 356
16.6.44 C3101: Fusing Pressure Roller pressure/retraction failure 356
16.6.45 C3201: Fusing Drive Motor's failure to turn 357
16.6.46 C3202: Fusing Drive Motor turning at abnormal timing 357
16.6.47 C3301: Fusing Cooling Fan Motor /1's failure to turn 357
16.6.48 C3302: Fusing Cooling Fan Motor /2, /3's failure to turn 358
16.6.49 C3451: Heating Roller warm-up failure 358
16.6.50 C3452: Fusing Pressure Roller warm-up failure 358
16.6.51 C3751: Heating Roller abnormally high temperature 358
16.6.52 C3752: Fusing Pressure Roller abnormally high temperature 358
16.6.53 C3851: Heating Roller abnormally low temperature 358
16.6.54 C3852: Fusing Pressure Roller abnormally low temperature 358

16.6.55 C4705: Printer Time Out ... 359
16.6.56 C4761: Compression hardware timeout ... 359
16.6.57 C4765: Extraction hardware timeout ... 359
16.6.58 C4770: JBIG0 Error ... 359
16.6.59 C4771: JBIG1 Error ... 359
16.6.60 C4772: JBIG2 Error ... 359
16.6.61 C4773: JBIG3 Error ... 359
16.6.62 C4780: Compressor 0 command buffer stop failure ... 359
16.6.63 C4781: Compressor 1 command buffer stop failure ... 359
16.6.64 C4782: Compressor 2 command buffer stop failure ... 359
16.6.65 C4783: Compressor 3 command buffer stop failure ... 359
16.6.66 CD211: PCI-SDRAM DMA operation failure ... 359
16.6.67 CD212: Compression/extraction timeout detection ... 359
16.6.68 C5102: Main Motor's failure to turn ... 360
16.6.69 C5103: Main Motor Turning at abnormal timing ... 360
16.6.70 C5351: Power Supply Cooling Fan Motor's failure to turn ... 361
16.6.71 C5353: Cooling Fan Motor 2's failure to turn ... 361
16.6.72 C5354: Ozone Ventilation Fan Motor's failure to turn ... 361
16.6.73 C5355: Cooling Fan Motor/3's failure to turn ... 362
16.6.74 C5356: Cooling Fan Motor/1's failure to turn ... 362
16.6.75 C5370: MFP Control Board Cooling Fan Motor's failure to turn ... 362
16.6.76 C6102: Scanner Home Sensor malfunction ... 363
16.6.77 C6103: Scanner overrun failure ... 363
16.6.78 C6301: Scanner Cooling Fan Motor's failure to turn ... 363
16.6.79 C6704: Scanner Time Out ... 364
16.6.80 C6751: CCD clamp/gain adjustment failure ... 364
16.6.81 C9401: Exposure Lamp's failure to turn ON ... 365
16.6.82 C9402: Exposure Lamp turning ON at abnormal timing ... 365
16.6.83 CA051: Standard Controller configuration failure ... 365
16.6.84 CC001: Vendor connection failure ... 365
16.6.85 CC151: ROM contents error upon startup (MSC) ... 366
16.6.86 CC152: ROM contents error upon startup (Scanner) ... 366
16.6.87 CC153: ROM contents error upon startup (PRT) ... 366
16.6.88 CC154: ROM contents error upon startup (LPH) ... 366
16.6.89 CC163: ROM contents error (PRT) ... 366
16.6.90 CD002: JOB RAM save error ... 366
16.6.91 CD004: Hard disk access error ... 367

16.6.92 CD005: Hard Disk Error 1 367
16.6.93 CD006: Hard Disk Error 2 367
16.6.94 CD007: Hard Disk Error 3 367
16.6.95 CD008: Hard Disk Error 4 367
16.6.96 CD009: Hard Disk Error 5 367
16.6.97 CD00A: Hard Disk Error 6 367
16.6.98 CD00B: Hard Disk Error 7 367
16.6.99 CD00C: Hard Disk Error 8 367
16.6.100 CD00D: Hard Disk Error 9 367
16.6.101 CD00E: Hard Disk Error A 367
16.6.102 CD00F: Hard disk data transfer error 367
16.6.103 CD010: Hard disk unformat 368
16.6.104 CD011: Hard disk specifications error 368
16.6.105 CD012: Encryption ASIC setting error 368
16.6.106 CD013: Encryption ASIC mounting error 368
16.6.107 CD201: File Memory mounting failure 369
16.6.108 CD202: Memory capacity discrepancy 369
16.6.109 CD221: NVRAM initialization failure 369
16.6.110 CD222: NVRAM initialization failure 369
16.6.111 CD223: NVRAM initialization failure 369
16.6.112 CE002: Message and Method parameter failure 369
16.6.113 CEEE1: MSC undefined malfunction occurring 370
16.6.114 CEEE2: Scanner Section undefined malfunction 370
16.6.115 CEEE3: Engine Section undefined malfunction 370
17. Power supply trouble 371
17.1 Machine is not Energized at All (PU1 Operation Check) 371
17.2 Control panel indicators do not light. 371
17.3 Fusing Heaters do not Operate 372
17.4 Power is not Supplied to ADF 372
17.5 Power is not Supplied to Duplex 372
17.6 Power is not Supplied to Option 373
17.6.1 Optional Paper Feed Cabinet 373
17.6.2 Finisher 373
18. Image quality problem 374
18.1 How to read Element date 374
18.1.1 Table Number 374
18.1.2 Level History 1 375
18.1.3 Level History 2 376

18.2 How to identify problematic part 377
18.2.1 Initial Check Items 377
18.3 Solution 379
18.3.1 IR System: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines in Sub Scan Direction, and colored bands in Sub Scan Direction 379
18.3.2 Scanner System: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, and colored bands in Main Scan Direction 380
18.3.3 Scanner System: color spots 381
18.3.4 Scanner System: fog 382
18.3.5 Scanner System: blurred image, blotchy image 383
18.3.6 Scanner System: incorrect color image registration, sync shift (lines in main scan direction) 384
18.3.7 Scanner System: moire 385
18.3.8 Scanner System: skewed image 386
18.3.9 Scanner System: distorted image 387
18.3.10 Scanner System: low image density, rough image 388
18.3.11 Scanner System: defective ACS 389
18.3.12 Scanner System: blank copy, black copy 390
18.3.13 Scanner System: abnormal image 391
18.3.14 Printer Monocolor: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines colored bands in Sub Scan Direction, white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, colored bands in Main Scan Direction 392
18.3.15 Printer Monocolor: uneven density in sub scan direction 393
18.3.16 Printer Monocolor: uneven density in main scan direction 394
18.3.17 Printer Monocolor: low image density 395
18.3.18 Printer Monocolor: gradation reproduction failure 397
18.3.19 Printer Monocolor: foggy background 399
18.3.20 Printer Monocolor: void areas, white spots 401
18.3.21 Printer Monocolor: colored spots 402
18.3.22 Printer Monocolor: blurred image 403
18.3.23 Printer Monocolor: blank copy, black copy 404
18.3.24 Printer Monocolor: 0.5-mm-pitch uneven image 405
18.3.25 Printer Monocolor: 2-mm-pitch uneven image 406
18.3.26 Printer Monocolor: 94-mm-pitch uneven image 407
18.3.27 Printer 4-Color: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction 408

18.3.28 Printer 4-Color: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction 409
18.3.29 Printer 4-Color: uneven density in sub scan direction 410
18.3.30 Printer 4-Color: uneven density in main scan direction 411
18.3.31 Printer 4-Color: low image density 412
18.3.32 Printer 4-Color: poor color reproduction 413
18.3.33 Printer 4-Color: incorrect color image registration 414
18.3.34 Printer 4-Color: void areas, white spots 415
18.3.35 Printer 4-Color: colored spots 416
18.3.36 Printer 4-Color: poor fusing performance, offset 417
18.3.37 Printer 4-Color: brush effect, blurred image 418
18.3.38 Printer 4-Color: back marking 419
18.3.39 Printer 4-Color: 204-mm-pitch uneven image 420
18.3.40 Printer 4-Color: 94-mm-pitch uneven image 421

Appendix

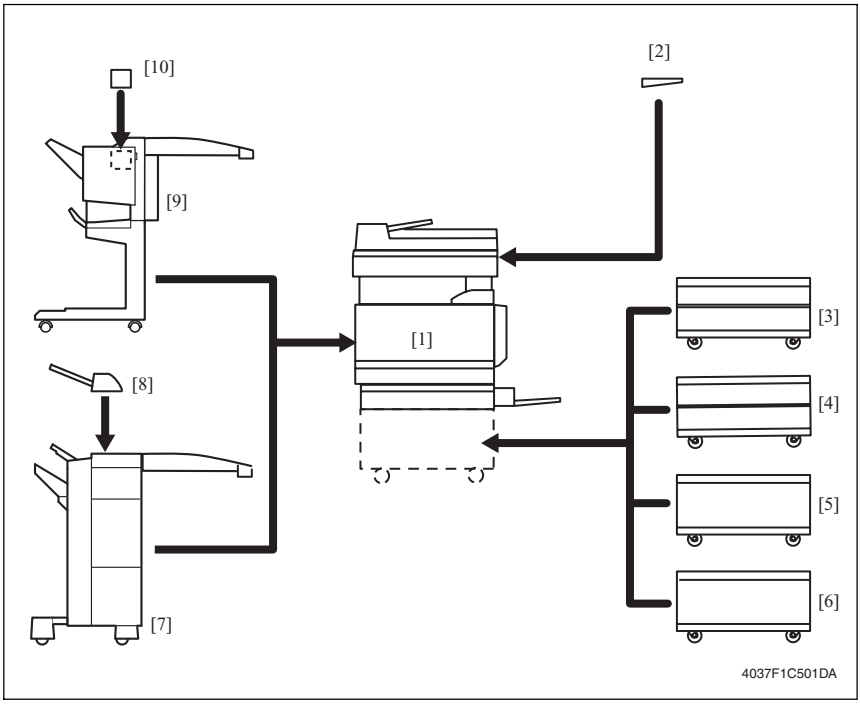
19. Parts layout drawing 423
19.1 Main unit 423
19.1.1 ADF section 423
19.1.2 IR section 424
19.1.3 Engine section 425
19.1.4 Tray 1 431
19.1.5 Tray 2 432
19.1.6 Duplex section 433
19.2 PC102/PC202 (Option) 434
19.3 PC-402 (Option) 435
19.4 FS-507 (Option) 436
19.5 JS-601 (Option) 438
19.6 FS-603 (Option) 439
19.7 PK-501 (Option) 441
19.8 Horizontal Transport Unit 442
20. Connector layout drawing 443
21. Timing chart 446
21.1 Main unit 446
21.2 Automatic Document Feeder 447
21.2.1 1-sided mode 447
21.2.2 Mixed original detection mode 451

Blank Page

General

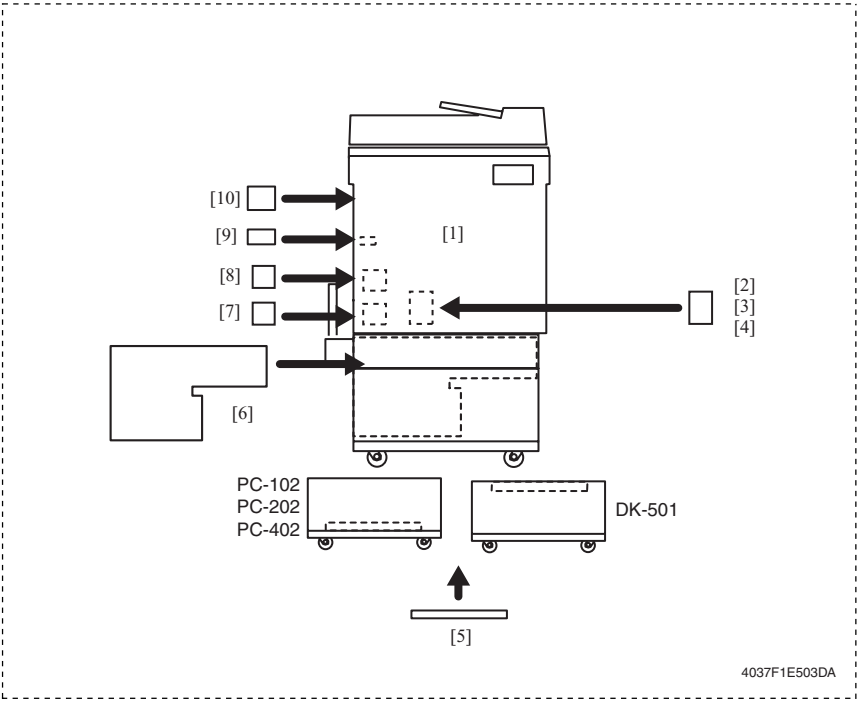
1. System configuration

1/2 System Front View



[1] Machine
[2] Working Table WT-501
[3] Paper Feed Cabinet PC-202
[4] Paper Feed Cabinet PC-102
[5] Desk DK-501
[6] Paper Feed Cabinet PC-402
[7] Finisher FS-507
[8] Job Separator JS-601
[9] Finisher FS-603
[10] Punch Kit PK-501

2/2 System Rear View



[1] Machine
[2] Fax Kit FK-502
[3] Mount Kit MK-703
[4] Mount Kit MK-704
[5] Dehumidifier Heater 1C
[6] Image Controller IC-402
[7] Video Interface Kit VI-502
[8] Local Interface Kit EK-702
[9] Mechanical Counter MC-501
[10] Key Counter Kit KIT-1

2. Product specifications

2.1 Type

Type	Desktop-type printer integrated with scanner
Copying System	Electrostatic dry-powdered image transfer to plain paper
Printing Process	Tandem-type indirect electrostatic recording system
PC Drum Type	OPC (organic photo conductor)
Scanning Density	Equivalent to 600 dpi
Exposure Lamp	White rare-gas fluorescent lamp 30 W
Print Density	Equivalent to 600 dpi in main scanning direction × 1800 dpi in sub scanning direction
Platen	Stationary (mirror scan)
Original Scanning	Scanning in main scanning direction with a CCD (one-shot reading system)
Registration	Rear left edge
Paper Feeding System (Standard) Three-way system	Multiple Bypass: 150 sheets Tray 1: 250 sheets Tray 2: 500 sheets
Exposure System	Four-LED exposure
Developing System	HMT developing system
Charging System	DC comb electrode Scorotron system with electrode cleaning function (manual)
Image Transfer System	Intermediate transfer belt system
Paper Separating System	Selecting either application of nonwoven fabric bias or resistor grounding + low-pressure paper separator claws
Fusing System	Belt fusing

2.2 Functions

Types of Original	Sheets, books, and three-dimensional objects	
Max. Original Size	A3 or 11 × 17	
Multiple Copies	1 to 999	
Warm-up Time	99 sec. or less (at ambient temperature of 23° C/73.4° F and rated source voltage)	
Image Loss	Leading edge: 4.2 mm (3/16 inch), Trailing edge: 3 mm (1/8 inch), Rear edge: 3 mm (1/8 inch), Front edge: 3 mm (1/8 inch)	
First Copy Time	(Tray 1, A4, full size)	
	Monochrome print	5.5 sec. or less
	Color print	8.5 sec. or less
Copying Speed for Multi-copy Cycle (A4, 8-1/2 × 11)	Monochrome print	1-sided: 45 copies/min.; 2-sided: 37 copies/min.
	Color print	1-sided: 35 copies/min.; 2-sided: 31 copies/min.
Fixed Zoom Ratios	Full size	×1.000
	Reduction	Metric Area: ×0.500, ×0.707, ×0.816, ×0.866 Inch Area: ×0.500, ×0.647, ×0.733, ×0.785
	Enlargement	Metric Area: ×1.154, ×1.224, ×1.414, ×2.000 Inch Area: ×1.214, ×1.294, ×1.545, ×2.000
Variable Zoom Ratios	×0.250 to ×4.000	in 0.001 increments

2.3 Types of Paper

Paper Source		Tray 1	Tray 2	Multiple Bypass
Copy paper type	Plain paper (60 to 90 g/m² / 16 to 24 lb)	❍	❍	❍
	Translucent paper	–	–	–
	OHP transparencies (crosswise feeding only)	❍ (20 sheets or less)	–	❍ (20 sheets or less)
	Thick paper 1 (91 to 150 g/m² / 24-1/4 to 40 lb)		❍ (150 sheets or less)	
	Thick paper 2 (151 to 209 g/m² / 40-1/4 to 55-1/2 lb)			
	Thick paper 3 (210 to 256 g/m² / 55-3/4 to 68 lb) *1			
	Postcards		–	
	Envelopes	❍ (10 sheets or less)	–	❍ (10 sheets or less)
	Labels	❍ (20 sheets or less)	–	❍ (20 sheets or less)
Copy paper dimensions	Max. (width × length)	311.1 × 457.2 mm 12-1/4 × 18 inches	297 × 432 mm 11 × 17 inches	311.1 × 457.2 mm 12-1/4 × 18 inches
	Min. (width × length)	90 × 139.7 mm 3-1/2 × 5-1/2 inches	140 × 182 mm 5-1/2 × 8-1/2 inches	90 × 139.7 mm 3-1/2 × 5-1/2 inches

*1: Image is not guaranteed when thick paper 3 is used.

Optional Paper Feed Cabinet : Only the plain paper and thick paper 1 to 3 weighing 60 to 90 g/m² (16 to 24 lb) is reliably fed.

Automatic Duplex Unit : Only the plain paper and thick paper 1 to 3 weighing 64 to 90 g/m² (17 to 24 lb) is reliably fed.

2.4 Maintenance

Machine Durability	1,000,000 prints or 5 years, whichever is earlier

2.5 Machine Specifications

Power Requirements	Voltage:	AC 110 V, 120 V, 127 V, 220-240 V
	Frequency:	50/60 Hz ± 3.0 Hz
Max Power Consumption		Less than 1500 W (120 V, 12 A / 220 - 240 V, 8 A)
Dimensions		706 (W) × 765 (D) × 908 (H) mm 27-3/4 (W) × 30 (D) × 35-3/4 (H) inches
Space Requirements		1014 (W) × 765 (D) mm *2 40 (W) × 30 (D) inches *2
Mass		Approx. 125 kg / 275-1/2 lb (without IU)

*2: The indicated spaced requirements represent the space required to fully extend the bypass tray.

2.6 Operating Environment

Temperature	10 to 30 °C / 50 to 86° F (with a fluctuation of 10° C / 18° F or less per hour)
Humidity	15 to 85 % (with a fluctuation of 20 %/h)

2.7 Built-in Controllers

Type	Built-in type controller	
CPU	PPC750 FX 600 MHz	
Printer Driver	PCL5e/c Emulation PCL6 (XL 2.1) Emulation PostScript 3 Emulation (3011)	
Scan Driver	TWAIN driver	
OS Compatibility	Server	Windows NT 4.0, 2000, or Server 2003
	Client	Windows 98 Second Edition, Windows Me, Windows 2000, Windows XP, or Windows NT 4.0 (SP6a) MacOS 9.2 or later or MacOS X 10.2 or 10.3
Interface	Standard: Ethernet (10Base-T or 100Base-TX) Optional: USB 1.1, USB 2.0, or IEEE 1284	

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

3. Periodical check

3.1 Service schedule

Guarantee period (5-year or 1,000,000 prints)

	Per cycle × print number	× 10,000-print																					Number of times
		6	12	15	18	20	24	30	36	40	42	45	48	54	60	66	72	75	78	80	84	90	96	
Main body	Upon each call (60,000)	●	●		●		●	●	●		●		●	●	●	●	●		●		●	●	●	16
	150,000			●				●				●			●			●				●		6
	200,000					●				●					●					●				4
	300,000							●							●							●		3
PC-102 PC-202 PC-402	300,000							●							●							●		3
FS-507 FS-603	300,000							●							●							●		3

3.2 Maintenance items

3.2.1 Parts to be replaced by users (CRU)

No.	Class	Parts to be replaced	Cycle	Clean	Replace	Descriptions
1	Processing sections	Imaging Unit C/M/Y	50 K		●	
2		Imaging Unit K	100 K		●	*1
3		Dust filter	100 K		●	*1
4		Comb electrode	When TC is replaced	●		
5		Toner cartridge: TC (TC Y/TC M/TC C)	11.5 K		●	
6		Toner cartridge: TC (TC K)	11.5 K		●	*2
7		Deodorant filter	11.5 K		●	*2
8	Image Transfer section	Waste Toner Box	30 K		●	
9	LPH section	LPH Assy	When IU is replaced	●		

*1: The Imaging Unit K and Dust filter are the Kit parts.
*2: The TC K and Deodorant filter are the Kit parts.

3.2.2 Maintenance call (per 60,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Transport section	Registration Roller			●			
4		Paper Dust Remover			●			
5		Transport Roller			●			
6		2nd Image Transfer Entrance Upper Guide			●			
7	Image Transfer section	Around waste toner port			●			
8	LPH section	LPH Assy			●			
9	ADF section	Pick-up Roller			●			
10		Paper Take-up Roller			●			
11		Separation Roller			●			
12		Transport Belt, Roller and Roll			●			
13	Duplex section	DUP Roller			●			

3.2.3 Periodical parts replacement 1 (per 150,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Transport section	Paper Dust Remover	1			●		
4		2nd Image Transfer Roller Unit	1			●		
5	Processing section	Ozone Filter	1			●		

3.2.4 Periodical parts replacement 2 (per 200,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Tray 1 Bypass	Paper Take-up Roller	1			●		
4		Separation Roller	1			●		
5	ADF section	Pick-up Roller	2			●		
6		Paper Take-up Roller	1			●		
7		Separation Roller				●		

3.2.5 Periodical parts replacement 3 (per 300,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Tray 2	Pick-up Roller	1			●		
4		Paper Take-up Roller	1			●		
5		Separation Roller Assy	1			●		
6	Image Transfer section	Image Transfer Belt Unit	1			●		
7	Fusing section	Fusing Unit	1			●		
8	PC-102 PC-202 PC-402	Pick-up Roller	1			●		Replace those three parts at the same time.
9		Paper Take-up Roller	1			●		
10		Separation Roller Assy	1			●		
11	FS-507 FS-603	Paper Feed Roller, Roll			●			
12		Transport route, Guide			●			
13		Sensor			●			

3.3 Maintenance parts

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the Life counter.
- Maintenance conditions are based on the case of A4 or 8.5 × 11, Standard mode and Low Power Mode OFF.

3.3.1 Replacement parts

A. Main unit

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Parts No.	Descriptions	Ref.Page in this manual
1	Tray 1	Paper Take-up Roller	1	200 K	4021-3012-XX		☞ 14
2		Separation Roller Assy	1	200 K	4034-0151-XX		☞ 14
3	Bypass	Paper Take-up Roller	1	200 K	4131-3001-XX		☞ 15
4		Separation Roller Assy	1	200 K	4034-0151-XX		☞ 17
5	Tray 2	Pick-up Roller	1	300 K	4030-3005-XX		☞ 21
6		Paper Take-up Roller	1	300 K	4030-3005-XX		☞ 19
7		Separation Roller Assy	1	300 K	4030-0151-XX		☞ 17
8	Transport section	Paper Dust Remover	1	150 K	1483-0762-XX		☞ 23
9		2nd Image Transfer Roller Unit	1	150 K	4049-411		☞ 27
10	Fusing section	Fusing Unit	1	300 K	4049-522 *4 4049-523 *5 4049-524 *6		☞ 34
11	Processing section	Imaging Unit C/M/Y	1	50 K	—		☞ 36
12		Imaging Unit K	1	100 K	—	Dust filter *2	☞ 36
13		Ozone Filter	1	150 K	1483-0757-XX		☞ 25
14		Toner Cartridge (YMCK)	1	11.5 K	—	Deodorant filter *3	☞ 36
15	Image transfer section	Image Transfer Belt Unit	1	300 K	4049-212		☞ 28
16		Waste Toner Box	1	30 K	4049-111		☞ 24
17	ADF section	Pick-up Roller	2	200 K	4582-3022-XX	Replace those three parts at the same time.	☞ ADF
18		Paper Take-up Roller	1	200 K	4582-3014-XX		
19		Separation Roller	1	200 K	4582-3047-XX		

*1: Actual durable cycle is the Life counter value.
*2: Also replace the Dust filter packed in the black imaging unit at the same time when 100 K is reached.
*3: Also replace the Deodorant filter packed in the black toner cartridge at the same time when 11.5 K is reached.
*4: 220-240 V areas only.
*5: 120 V/127 V areas only.
*6: 110 V areas only.

B. Option

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Parts No.	Descriptions	Ref.Page in this manual
1	PC-102	Pick-up Roller	1	300 K	4030-3005-XX	Replace those three parts at the same time.	*2
2	PC-202	Paper Take-up Roller	1	300 K	4030-3005-XX		
3	PC-402	Separation Roller Assy	1	300 K	4030-0151-XX		

*1: Actual durable cycle is the Life counter value.
*2: See each Option Service Manual.

3.3.2 Cleaning parts

No.	Classification	Parts name	Actual cleaning cycle *1	Descriptions	Ref.Page in this manual
1	Transport section	Registration Roller	Upon each call (60 K)		☞ 22
2		Paper Dust Remover	Upon each call (60 K)		☞ 23
3		Transport Roller	Upon each call (60 K)		☞ 23
4		2nd Image Transfer Entrance Upper Guide	Upon each call (60 K)		☞ 24
5	Processing section	Comb Electrode	When TC is replaced (11.5 K)		☞ 26
6	Image transfer section	Area around the Waste Toner Collecting Port	Upon each call		☞ 25
7	LPH section	LPH Assy	Upon each call or When IU is replaced		☞ 26
8	Duplex section	Paper Feed Roller	Upon each call (60 K)		*2

*1: Actual cleaning cycle is the Life counter value.
*2: See Automatic Duplex Unit Service manual.

3.4 Concept of parts life

	Description	Life value (Specification value)	Max. number of printed pages
Waste Toner Bottle	A waste toner full condition is detected when about 8,000 printed pages have been produced after a waste toner near full condition has been detected.	–	30,000 *
Fusing unit	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.) When printing prohibited is encountered, the machine prohibits the initiation of any new print cycle.	300,000	402,000 *
Paper Dust Remover	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.)	150,000	152,000
Ozone Filter	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.)	150,000	152,000
2nd Transfer Roller Unit	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.)	150,000	152,000
Transfer Belt Unit	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.) The number of copies made is compared with the value of the number of hours through which the belt has turned translated to a corresponding value of the number of copies made and the value, whichever reaches the life specifications value, is detected. When printing prohibited is encountered, the machine prohibits the initiation of any new print cycle.	300,000	402,000 *
Imaging Unit C/M/Y	The number of hours through which the PC Drum has turned is compared with the number of hours through which the Developing Roller has turned translated to a corresponding value of the number of hours through which the PC Drum has turned and the value, whichever reaches the life specifications value, is detected.	2,928 min.	3,045 min. *
Imaging Unit K		4,137 min	4,220 min. *

*: The initiation of any new print cycle is inhibited when the maximum number of printed pages is reached.

A. Conditions for Life Specifications Values

- The life specification values represent the number of copies made or figures equivalent to it when given conditions (see the Table given below) are met. They can be more or less depending on the machine operating conditions of each individual user.

Item	Description
Job Type	Monochrome: Making 5 copies per job Color: Making 4 copies per job
Paper Size	A4
Color Ratio	Black to Color = 5:1
CV/M	Black: 12,000 / Color: 2,400
Original Density	B/W = 5 % for each color, 6 % for Monochrome
No. of Operating Days per Month	20 days (Main Power Switch turned ON and OFF 20 times per month)

B. Control causing inhibited printing for one part when an inhibited-printing event occurs in another part

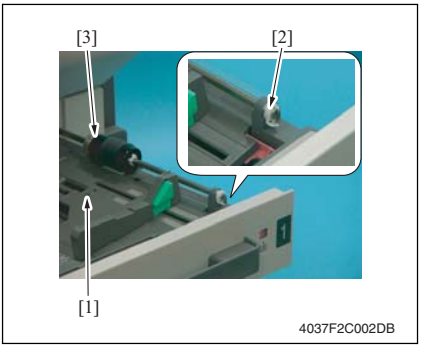
Purpose	In order to reduce the maintenance call times: when printing prohibiting is reached for any of the following parts, make printing prohibited also for other parts whose life value is reached, and replace those parts at the same time.
Target parts	Fusing unit, Image Transfer Belt Unit, Imaging Unit /C, Imaging Unit /M, Imaging Unit /Y, Imaging Unit /K

3.5 Maintenance procedure (Periodical check parts)

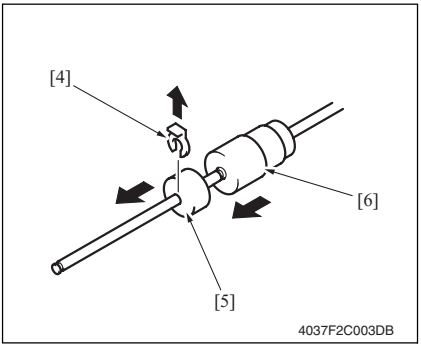
NOTE

- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

3.5.1 Replacing the Tray 1 Paper Take-up Roller



1. Slide out the Tray 1.
2. Lock the Paper Lifting Plate [1] into position.
3. Snap off the C-clip [2] from the Tray 1 Paper Take-Up Roller Assy [3].
4. Remove the shaft for the Tray 1 Paper Take-up Roller Assy [3] from the front Bushing.

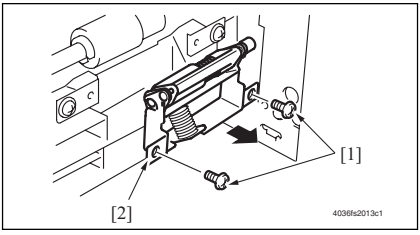


5. Snap off the C-clip [4], one collar [5] and remove the Tray 1 Paper Take-Up Roller [6].
6. To reinstall, reverse the order of removal.
7. Select “Service Mode”→ “Counter” → “Life” and clear the count of “1st.”

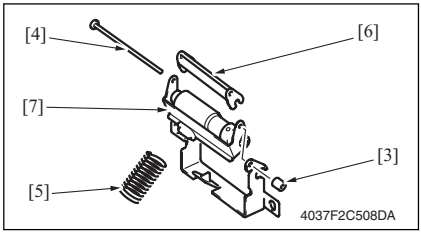
NOTE

- **Replace the Tray 1 Paper Take-up Roller and Tray 1 Separation Roller at the same time.**

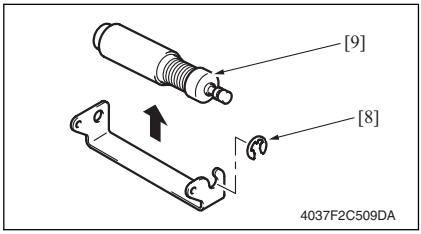
3.5.2 Replacing the Tray 1 Separation Roller Assy



1. Slide out the Tray 1.
2. Remove two screws [1] and the Tray 1 Separation Roller mounting bracket Assy [2].



3. Take off the rubber stopper [3], shaft [4], spring [5], and guide plate [6] to remove the Paper Separation Roller fixing bracket Assy [7].

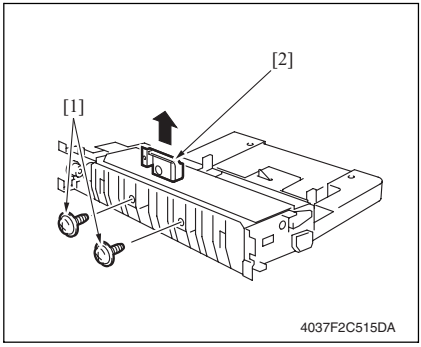


4. Snap off the E-ring [8] and the Tray 1 Paper Separation Roller Assy [9].
5. To reinstall, reverse the order of removal.
6. Select "Service Mode" → "Counter" → "Life" and clear the count of "1st."

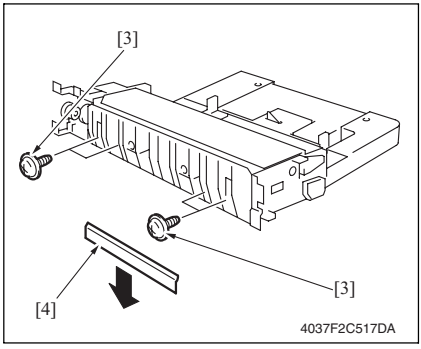
NOTE

- **Replace the Tray 1 Paper Take-up Roller and Tray 1 Separation Roller at the same time.**

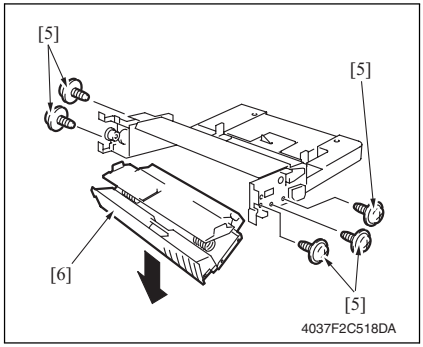
3.5.3 Replacing the Bypass Tray Paper Take-up Roller



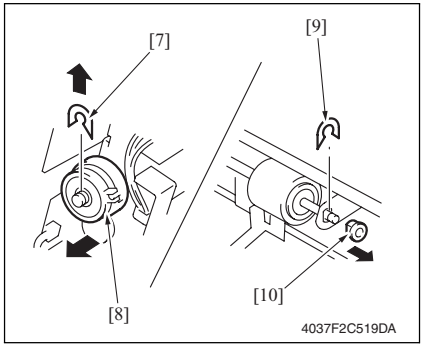
1. Remove the Multi Bypass Unit.
☞ 76
2. Remove two screws [1], and remove Bypass Paper Separation roller fixing bracket Assy [2].



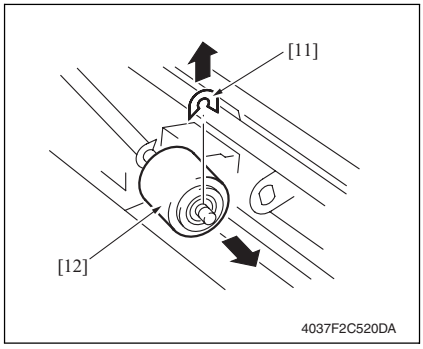
3. Remove four screws [3], and remove the Frame [4].



4. Remove five screws [5], and remove the Frame [6] under the Bypass Unit.



5. Snap off the C-clip [7], and remove the Bypass Paper Feed Clutch [8].
6. Snap off the C-clip [9] for the Paper Take-up roller, and remove the shaft [10].

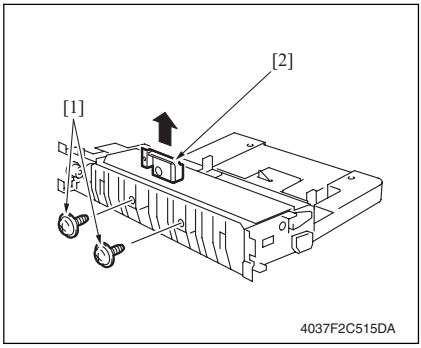


7. Snap off the C-clip [11], and remove the Bypass Paper Take-up Roller [12].
8. To reinstall, reverse the order of removal.
9. Select "Service Mode" → "Counter" → "Life" and clear the count of "Manual Tray."

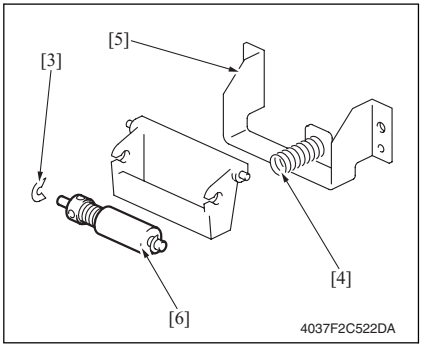
NOTE

- **Replace the Bypass Paper Take-up Roller and the Bypass Separation Roller Assy at the same time.**

3.5.4 Replacing the Bypass Tray Separation Roller Assy



1. Remove the Multi Bypass Unit.
☞ 76
2. Remove two screws [1], and remove Bypass Paper Separation Roller fixing bracket Assy [2].

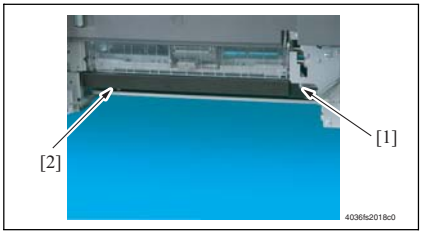


3. Snap off the C-clip [3], and remove the spring [4] and the guide plate [5]. Remove the Bypass Paper Separation Roller Assy [6].
4. To reinstall, reverse the order of removal.
5. Select “Service Mode” → “Counter” → “Life” and clear the count of “Manual Tray.”

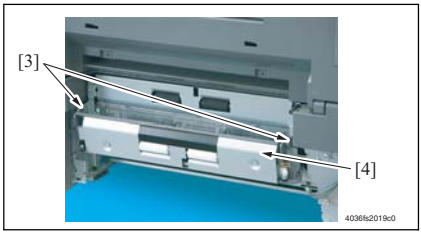
NOTE

- **Replace the Bypass Paper Take-up Roller and the Bypass Separation Roller Assy at the same time.**

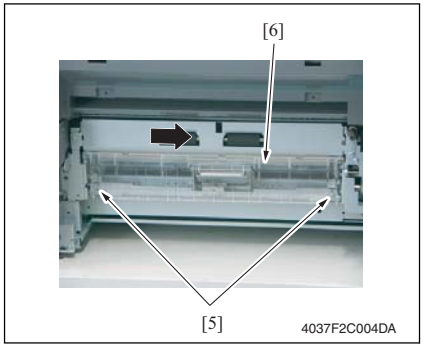
3.5.5 Replacing the Tray 2 Separation Roller



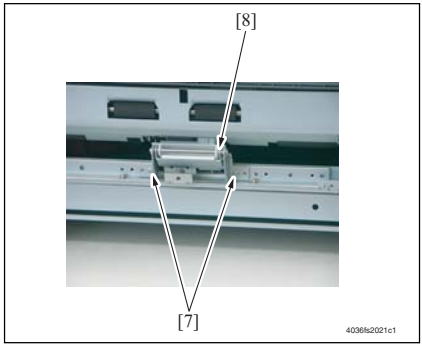
1. Slide out the Tray 2.
2. Remove the Multi Bypass unit.
3. Remove the Screw [1], and the Reinforcement plate [2].



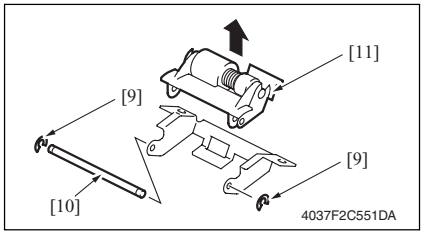
4. Open the Vertical transport door.
5. Remove two Claws [3] and the Vertical transport door [4].



6. Remove two Screws [5], and remove the Jam processing cover [6].



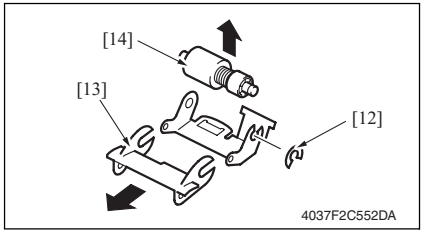
7. Remove two Screws [7] and the Tray 2 Separation Roller installation plate Assy [8].



8. Remove two C-rings [9] and the Shaft [10], and remove the Separation Roller fixing plate Assy [11].

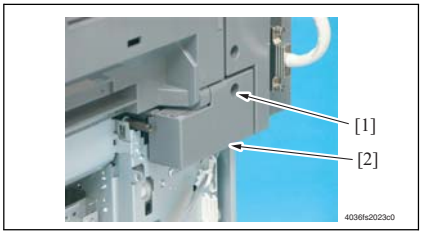
NOTE

- **Use care not to miss the Spring.**



9. Remove the C-ring [12] and Guide [13], and remove the Tray 2 Separation Roller Assy [14].

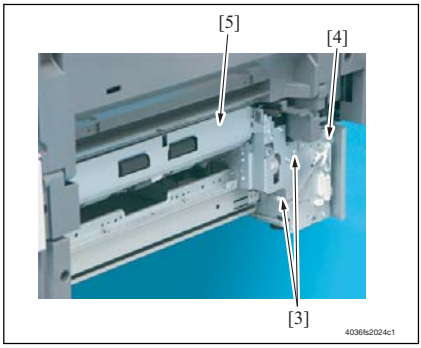
3.5.6 Replacing the Tray 2 Paper Take-up Roller



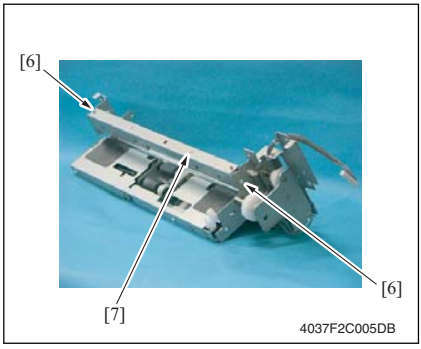
1. Remove the Tray 2 Separation Roller installation plate Assy.

☞ See the procedures 1 to 7 in page 17 “Tray 2 Separation Roller.”

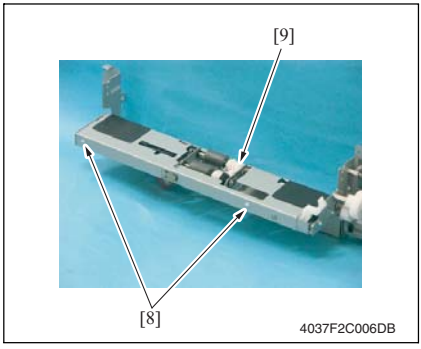
2. Remove the Screw [1] and Wiring cover [2].



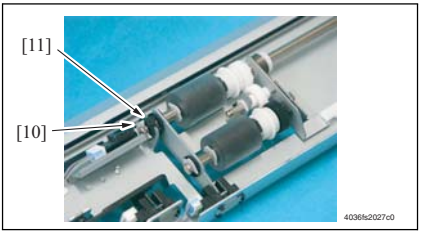
3. Remove two Screws [3] and Connector [4], and remove the Tray 2 Paper Take-up Roller Assy [5].



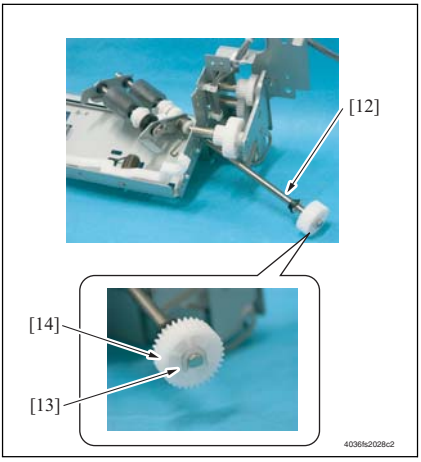
4. Remove two Screws [6] and the Installation flame [7] of the Tray 2 Separation Roller installation plate Assy.



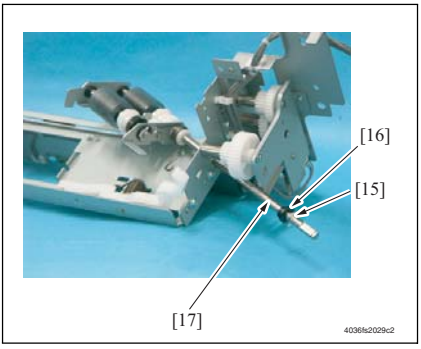
5. Remove two Screws [8] and Tray 2 Paper Take-up Roller cover [9].



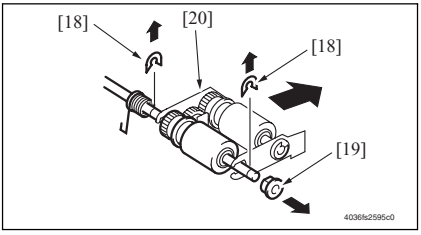
6. Remove the C-ring [10] and Bushing [11].



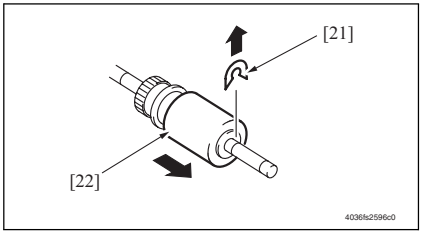
7. Remove the C-ring [13] and Gear [14] while sliding out the Shaft Assy [12] in the direction indicated in left figure.



8. Remove the C-ring [15] and Bushing [16], and remove the Shaft Assy [17].

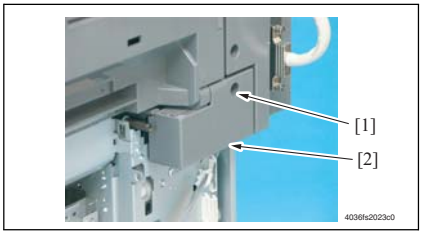


9. Remove two E-rings [18] and Bushing [19], and remove the Tray 2 Pick-up Roller fixing plate Assy [20].

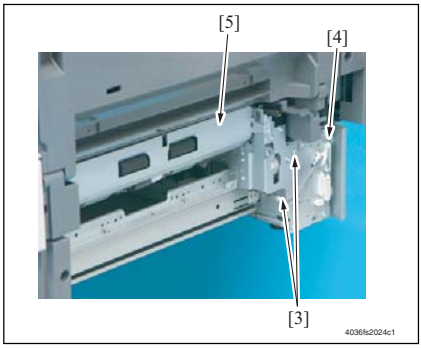


10. Remove the C-ring [21] and Tray 2 Paper Take-up Roller [22].
11. Select “Service Mode” → “Counter” → “Life” and clear the count of “2nd.”

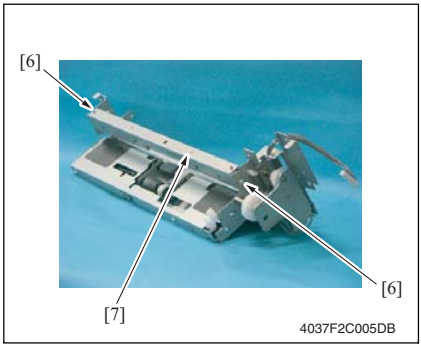
3.5.7 Replacing the Tray 2 Pick-up Roller



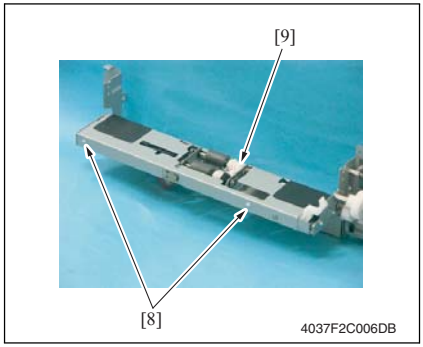
1. Remove the Tray 2 Separation Roller installation plate Assy.
☞ See the procedures 1 to 7 in page 17 “Tray 2 Separation Roller.”
2. Remove the Screw [1] and Wiring cover [2].



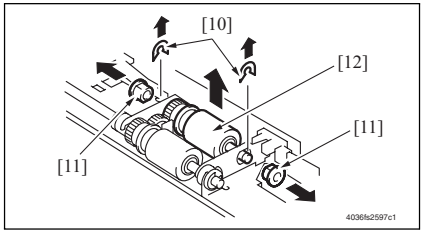
3. Remove two Screws [3] and Connector [4], and remove the Tray 2 Paper Take-up Roller Assy [5].



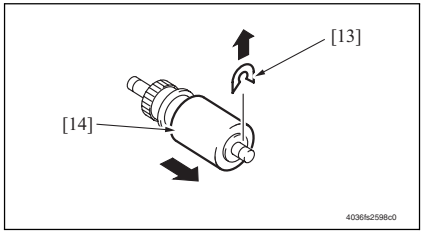
4. Remove two Screws [6], and remove the Tray 2 Separation Roller installation plate Assy [7] together with Frame.



5. Remove two Screws [8] and Tray 2 Paper Take-up Roller cover [9].

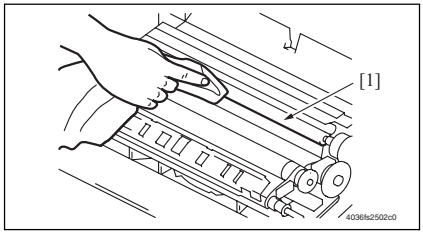


6. Remove two C-rings [10] and two Bushings [11], and remove the Tray 2 Pick-up Roller Assy [12].



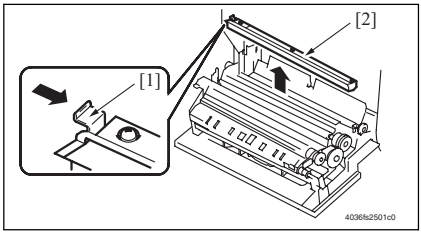
7. Snap off the C-ring [13], and remove the Tray 2 Pick-up Roller [14].

3.5.8 Cleaning of Registration Roller



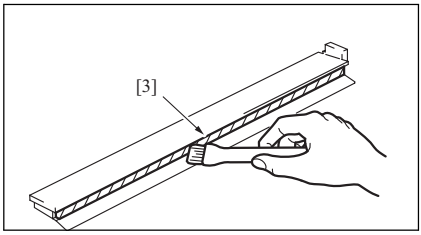
1. Open the Right Door.
2. Remove the Paper Dust Remover.
☞ See page 23 for Replacing the Paper Dust Remover.
3. Using a soft cloth dampened with alcohol, wipe the Registration Rollers [1] clean of dirt.

3.5.9 Paper Dust Remover

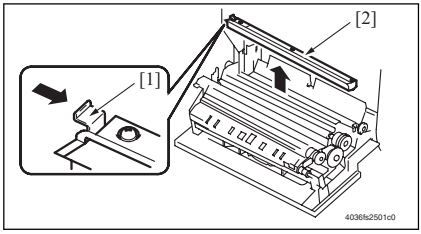


A. Cleaning Procedure

1. Open the Right Door.
2. Pushing the hook [1] with a blue label inward, remove the Paper Dust Remover [2].



3. Using a brush, whisk dust off the Paper Dust Remover [3].



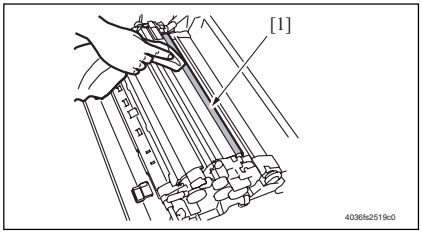
B. Replacing Procedure

1. Open the Right Door.
2. Pushing the hook [1] with a blue label inward, remove the Paper Dust Remover [2].
3. Remove the Ozone Filter.

☞ 25

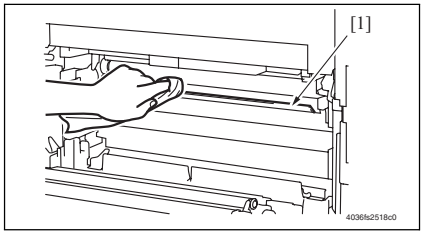
4. Select “Service Mode” → “Counter” → “Life” and clear the count of “Paper Dust Remover/Ozone Filter.”

3.5.10 Cleaning of Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller [1] clean of dirt.

3.5.11 Cleaning of 2nd Image Transfer Entrance Upper Guide



1. Open the Right Door.
2. Open the Left Door.
3. Remove the Waste Toner Box.

☞ 36

4. Remove two screws and slide the Transfer Belt Unit out halfway.

☞ 28

5. Wipe the 2nd Image Transfer Entrance Upper Guide [1] clean of dirt using a soft cloth.

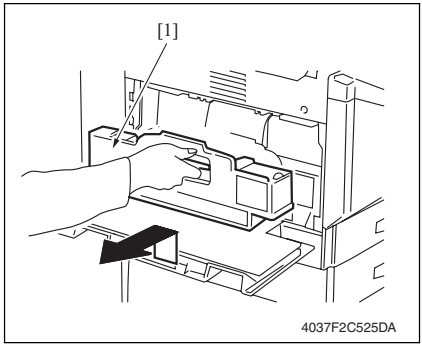
NOTE

- **When cleaning, use care not to be hurt by the leading edge of the guide that is sharp.**

3.5.12 Replacing the Waste Toner Box

NOTE

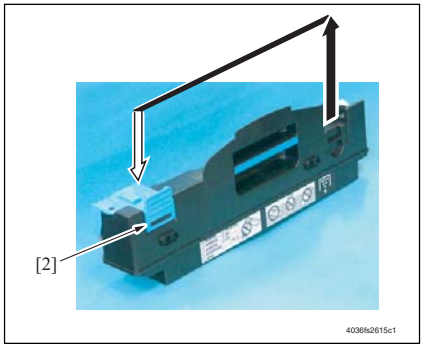
- **If a Finishing Option is installed, remove if from the Main Unit before trying to replace the Waste Toner Bottle.**
- **When removing the Finishing Option, support the Horizontal Transport Unit with your hand to prevent if from dropping.**



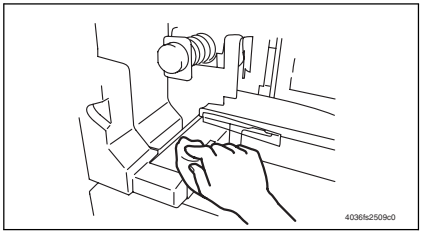
1. Turn OFF the main power switch.
2. Open the Left Door.
3. Grasp the handle, and remove the waste toner box [1].

NOTE

- **Raise the waste toner box gently before removing it.**
- **If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner bottle when removing it.**
- **Do not leave the waste toner bottle in a tilted condition after removing it.**

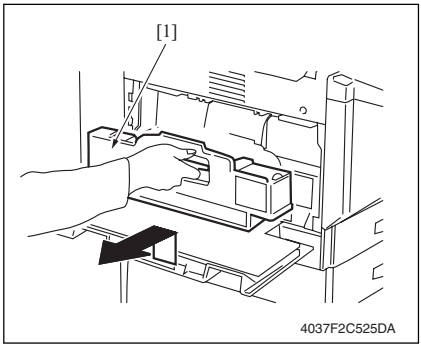


4. Remove the Cover [2] of Waste Toner Box, and set it on the Collecting port.

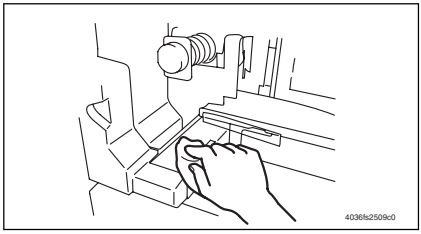


5. Clean the surface around the waste toner collecting port.
6. Remove the waste toner box from its box, and remove the packing material.
7. Grasp the handle, and set the waste toner box in place.
8. Close the Left Door.

3.5.13 Cleaning of the Area around the Waste Toner Collecting Port

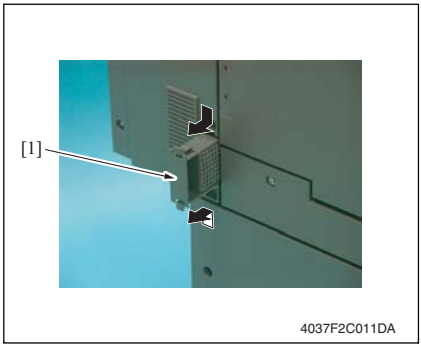


1. Open the Rear Left Cover.
2. Remove the Waste Toner Box [1].



3. Wipe the areas around the Waste Toner Collecting Port clean of spilled toner and dirt using a soft cloth dampened with water or alcohol.

3.5.14 Replacing Ozone Filter

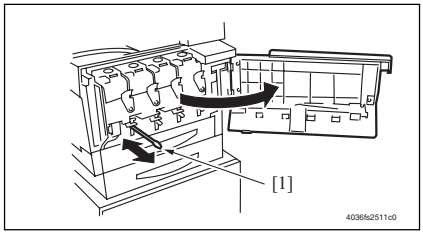


1. Holding onto the hook, remove the Ozone Filter [1].
2. Remove the Paper Dust Remover.

☞ 23

3. Select “Service Mode” → “Counter” → “Life” and clear the count of “Paper Dust Remover/Ozone Filter.”

3.5.15 Cleaning of the Comb Electrode



1. Open the Front Door.
2. Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever [1] In and Out several times.

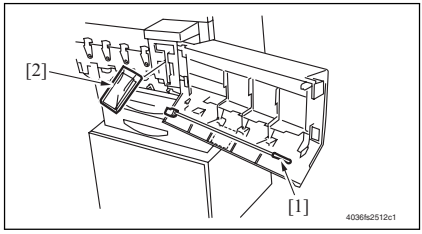
NOTE

- **Move the Comb Electrode Cleaning Lever slowly forward and backward until it stops.**

3.5.16 Cleaning LPH Assy

NOTE

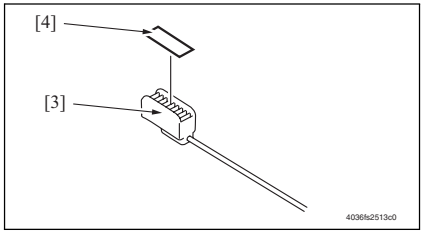
- **After the Imaging Unit has been removed from the main unit, be sure to place it in the plastic bag (black) or wrap it in a light shielding cloth, and store it in a dark place.**
  Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.



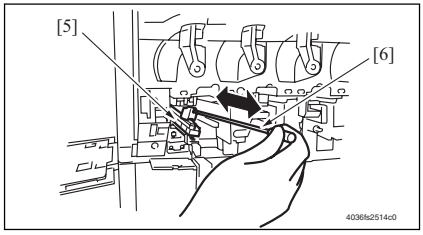
1. Open the Front Door.
2. Slide out the IU (C/M/Y/K).

☞ 31

3. Remove the LED Cleaning Jig [1] and LED Cleaning Jig Pad [2].



4. Affix a LED Cleaning Jig Pad [4] to the LED Cleaning Jig [3].

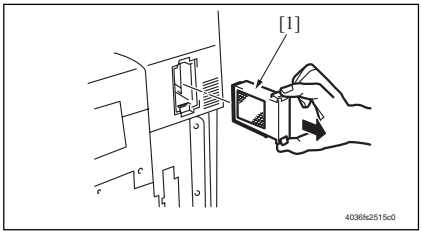


5. Clean the LED [5] of the LPH Assy by moving the LED Cleaning Jig [6] three reciprocating motions.

NOTE

- **Use only the specified jig (LED Cleaning Jig) for cleaning.**

3.5.17 Replacement of the Deodorant Filter

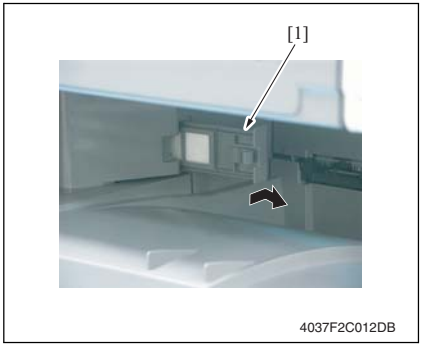


1. Holding onto the hook, take out the Deodorant Filter [1].

NOTE

- **The Deodorant Filter is supplied with the toner cartridge (black). Replace it when replacing the toner cartridge (black).**

3.5.18 Replacement of the Dust Filter



1. Grasping the hook, remove the Dust Filter [1].

NOTE

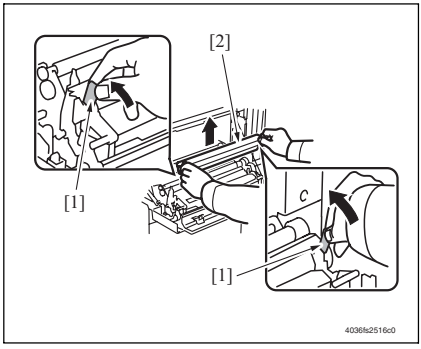
- **The Dust Filter is supplied with the Imaging Unit (black). Replace it when replacing the Imaging Unit (black).**

3.6 Replacing the unit

3.6.1 Replacing the 2nd Image Transfer Roller Unit

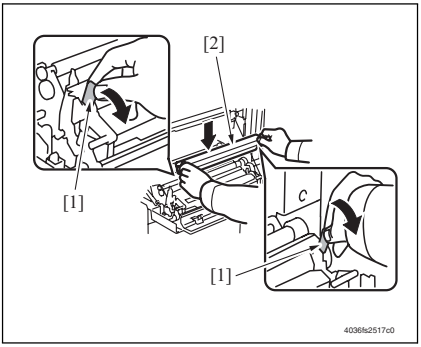
NOTE

- **If a Finishing Option is installed, remove if from the main unit before trying to replace the Waste Toner Bottle.**
- **When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.**



A. Removal Procedure

1. Turn OFF the main power switch.
2. Open the Right Door.
3. Unlock the blue lock levers [1] (at two places).
4. Holding onto the blue lock levers [1] (at two places), remove the 2nd Image Transfer Roller Unit [2].



B. Reinstallation Procedure

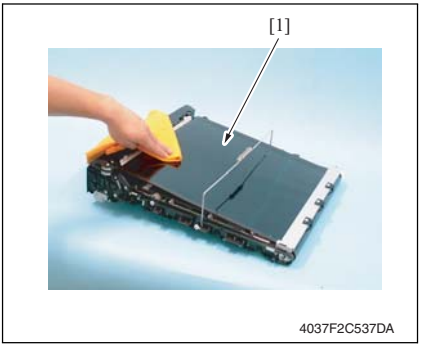
1. Holding onto the blue lock levers [1] (at two places), mount the 2nd Image Transfer Roller Unit [2].
2. Lock the blue lock levers [1](at two places).
3. Close the Right Door.

NOTE

- **Make sure that the door is locked in position both at front and rear.**

4. Turn ON the Main Power Switch.
5. Select “Service Mode” → “Counter” → “Life” and clear the count of “Transfer Roller Unit.”

3.6.2 Image Transfer Belt Unit



A. Cleaning Procedure

1. Remove the Image Transfer Belt Unit.

☞ 28

2. Using a dried soft cloth, wipe the Transfer belt [1].

NOTE

- **If it is difficult to clean with dried soft cloth, dampen a soft cloth with a solvent.**
- **Do not wipe out with water.**
- **When solvent is used to dampen a cloth, do not use the ones other than shown below: isopropyl alcohol, ethyl alcohol, PPC Cleaner, Sol mix AP-7**
- **After cleaned with the solvent, make copies more than 28-piece of A3 white paper to eliminate the image noise.**

B. Replacing Procedure

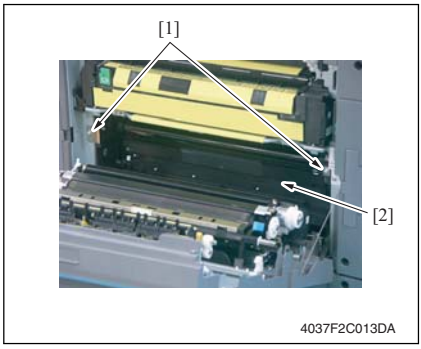
NOTE

- **If a Finishing Option is installed, remove if from the main unit before trying to replace the Transfer Belt Assembly.**
- **When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.**

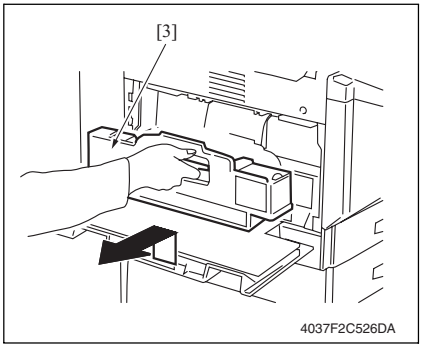
1. Turn OFF the main power switch.
2. Slide out the IU (C/M/Y/K).

NOTE

- **After the Imaging Unit has been removed from the main unit, be sure to place it in the plastic bag (black) or wrap it in a light shielding cloth, and store it in a dark place.**
  Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.



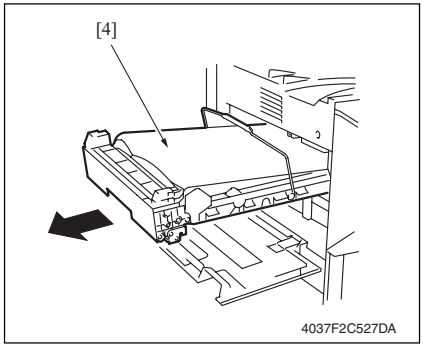
3. Open the Right Door.
4. Remove two Screws [1] and release the Lock of the Image Transfer Belt Unit [2].



5. Open the Left Door.
6. Grasp the handle, and remove the waste toner box [3].

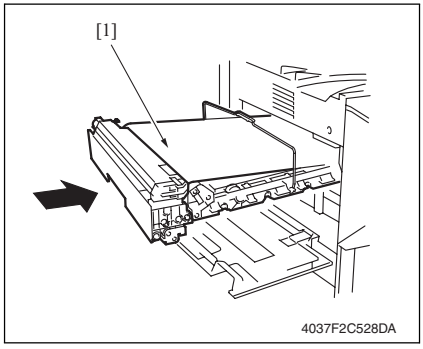
NOTE

- **Raise the waste toner box gently before removing it.**
- **If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner box when removing it.**
- **Do not leave the waste toner box in a tilted condition after removing it.**



7. Pull out the Image Transfer Belt Unit [4].

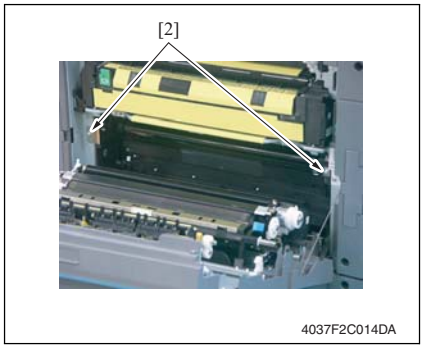
C. Reinstallation Procedure



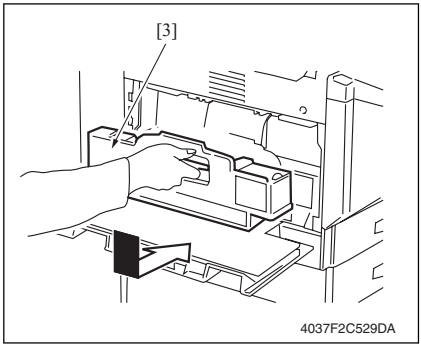
1. Insert the Transfer Belt Unit [1].

NOTE

- **Insert the Transfer Belt Unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**



2. Install the Image Transfer Belt Unit with two Screws [2].



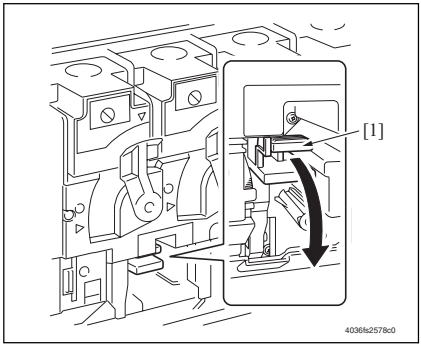
3. Hold the handle and install the Waste Toner Box [3] in position.
4. Close the Left Door.
5. Close the Right Door.

NOTE

- **Make sure that the door is locked in position both at front and rear.**

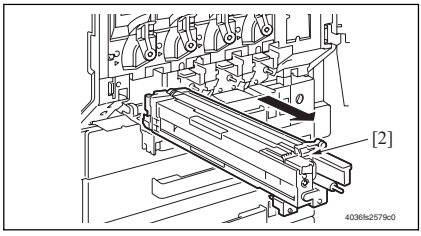
6. Turn ON the Main Power Switch.
7. Select "Service Mode" → "Imaging Process Adjustment" → "Gradation Adjust" and carry out Gradation Adjust.

3.6.3 Replacing the Imaging Unit (C, M, Y, K)



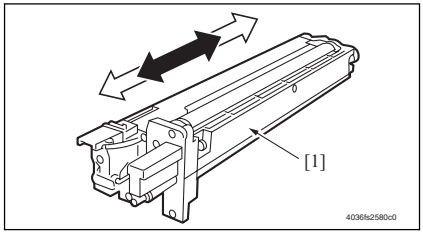
A. Removal Procedure

1. Turn OFF the Main Power Switch.
2. Unplug the power cord.
3. Open the Front Door.
4. Release the lock lever [1] of the Imaging Unit.



5. Pull out the IU [2], and remove it from main body.
6. Clean the LPH Assy.

☞ 26



B. Reinstallation Procedure

1. Remove the Imaging Unit from its plastic bag.

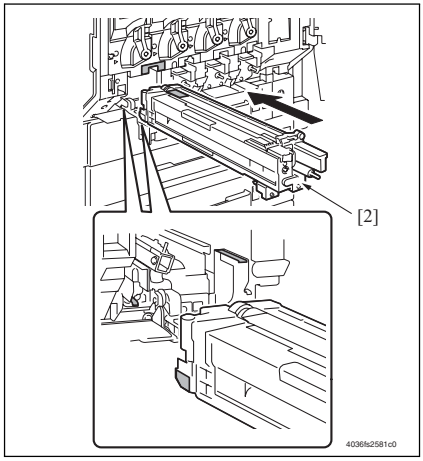
2. Tilt the Imaging Unit [1] to the left and shake it a small stroke in the tilt direction twice. Then, tilt it to the right and shake it a small stroke in the tilt direction twice.

NOTE

- **Since the Imaging Unit is highly susceptible to light, keep it shielded from light up to the time it is installed.**
- **Carefully unseal the plastic bag (black).**
- **If the Imaging Unit is packed in the plastic bag (black) again, seal the package using tape or another means.**

NOTE

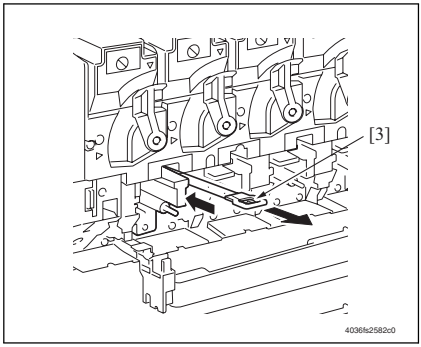
- **When installing the Imaging Unit, ensure that the color of the mounting guide of the Imaging Unit is the same as the color of the label at the mounting position on the main unit.**



3. Keeping the Imaging Unit [2] in a level position, insert the Imaging Unit [2] into the mounting position all the way until it is stopped.

NOTE

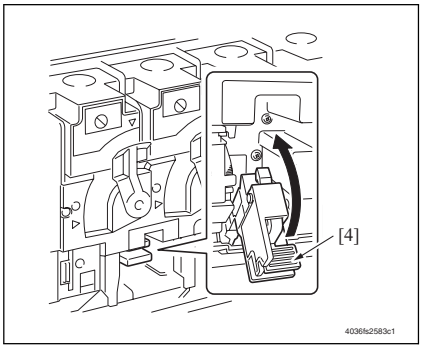
- **Do not allow the Imaging Unit to become tilted while installing them into the Main Unit, as damage to the PC Drum or the LED assembly can result.**
- **Insert the Imaging Unit until a click is heard.**



4. Pull out the PC Drum protective sheet [3] while pressing the IU.

NOTE

- **Pull out the PC Drum protective sheet half way, and pull it down slantwise.**



5. Close the Imaging Unit Locking Lever [4] while pressing the IU.

NOTE

- **Place the IU Lock Lever into the locked position until a click is heard.**

6. Close the Front Door.

7. Plug in the power cord.

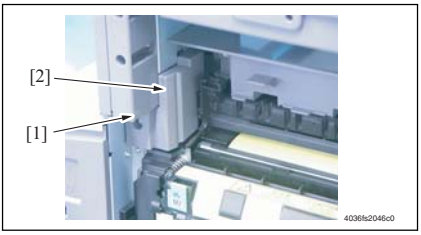
8. Turn ON the Main Power Switch.

9. Select “Service Mode” → “Imaging Process Adjustment” → “Gradation Adjust” and carry out Gradation Adjust.

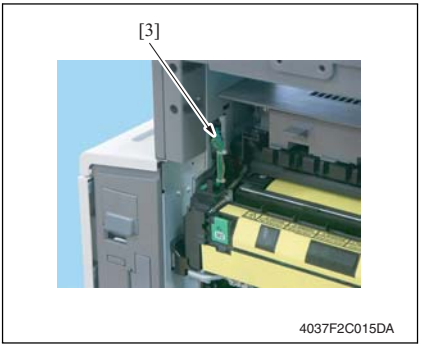
3.6.4 Replacing the Fusing Unit

NOTE

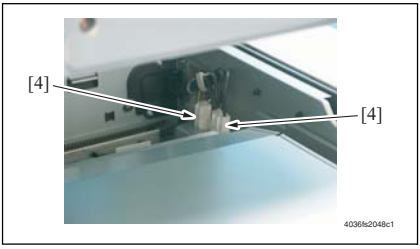
- **Before replacing the Fusing Unit, ensure that it has had time to cool down.**



1. Turn OFF the main power switch and unplug the power cord from the power outlet, then wait for about 20 minutes.
2. Open the Right Door.
3. Remove the Screw [1], and remove the Connector protective cover [2].



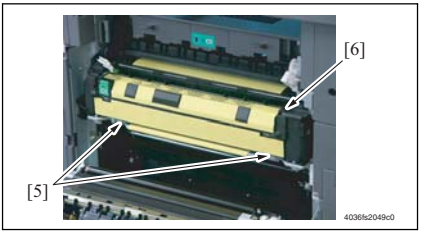
4. Remove the Connector [3].



5. Remove the Exit Tray.

☞ 51

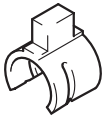
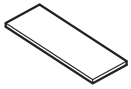
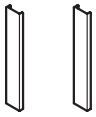
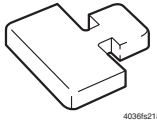
6. Remove wire saddle and remove two Connectors [4] of Fusing unit.



7. Remove two Screws [5], and remove the Fusing unit [6].

4. Service tool

4.1 CE Tool list

Tool name	Shape	Parts No.	Personnel	Remarks
Scanner Drive Cable Holding Jig	 4036fs2001c0	4581-7901-XX	2	
LED Cleaning Jig	4036fs2002c0	4004-7502-XX	1	
LED Cleaning Jig Pad	 4036fs2003c0	4004-7503-XX	1	
LPH Assy Mounting Jigs	 4036fs2004c0	4025-7901-XX	2	
Color chart	4036fs2577c0	—	1	
Safety Switch Holding Jig	 4036fs2184c0	1174-7901-XX	1	

4.2 Copy materials

4.2.1 Imaging Unit Single Parts (IU)

Also replace the Dust filter packed in the Imaging Unit Black at the same time.

Parts name	Replacing period
IU Black	100,000 copies
IU Yellow	50,000 copies
IU Magenta	50,000 copies
IU Cyan	50,000 copies

☞ For the predetermined conditions, see page 13.

4.2.2 Toner Cartridge Single Parts (T/C)

Also replace the Deodorant filter packed in the T/C Black at the same time.

Parts name	Replacing period *1
T/C Black	11,500 copies
T/C Yellow	11,500 copies
T/C Magenta	11,500 copies
T/C Cyan	11,500 copies

*1: Life value that can be achieved with a probability of 90% even with product-to-product variations and fluctuating operating environmental conditions taken into consideration, when the T/C is used under the conditions of B/W ratio 5% for each color

4.2.3 Waste Toner Box

Parts name	Replacing period
Waste Toner Box	30,000 copies

☞ For the predetermined conditions, see page 13.

4.2.4 Maintenance Kit

There is no setting for the Maintenance Kit.

5. Firmware upgrade

5.1 Preparations for Firmware rewriting

5.1.1 Service environment

- OS: Windows 2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 128MB or more)

5.1.2 Application to be used

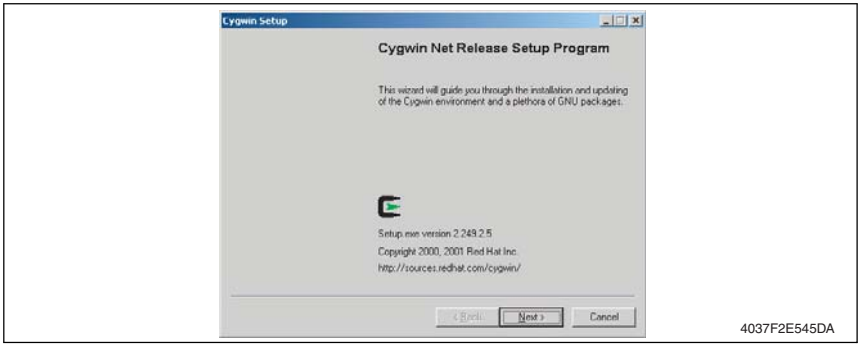
- Cygwin (Free software)

5.1.3 Installing the Cygwin

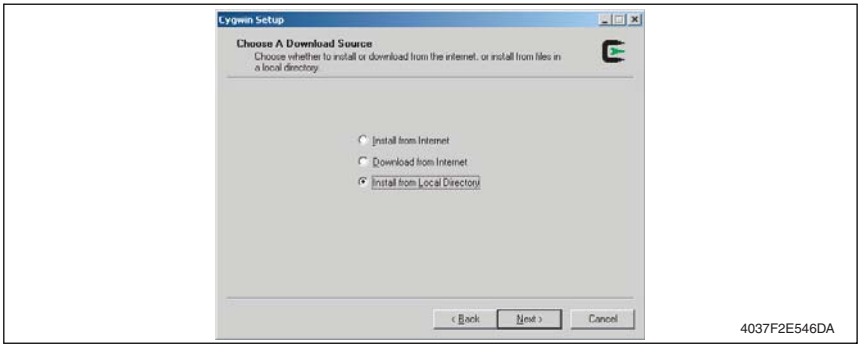
- The software for writing the Firmware into Compact flash is installed into the PC.

1. Double click the [setup.exe] on CD-ROM in which Cygwin is stored.

2. Click [Next (N)].


Cygwin Setup
Cygwin Net Release Setup Program
This wizard will guide you through the installation and updating of the Cygwin environment and a plethora of GNU packages.
Setup.exe version 2.249.2.5
Copyright 2000, 2001 Red Hat Inc.
http://sources.redhat.com/cygwin/
< Back
Next >
Cancel
4037F2E545DA

3. Select “Install from Local Directory”, and click [Next (N)].

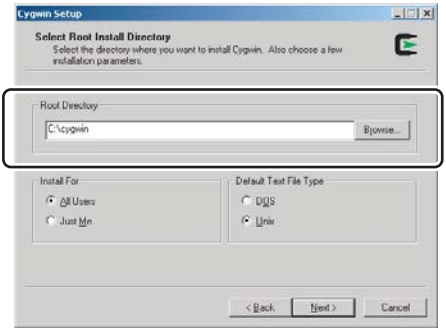

Cygwin Setup
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory
Install from Internet
Download from Internet
Install from Local Directory
< Back
Next >
Cancel
4037F2E546DA

4. Specify the folder for installation.
Check to make sure that “Root Directory” is in default setting, [C:\cygwin].

NOTE

- **Make sure to check that “Root Directory” is in default setting, [C:\cygwin].**
- **Do not change the setting value except “Root Directory.”**

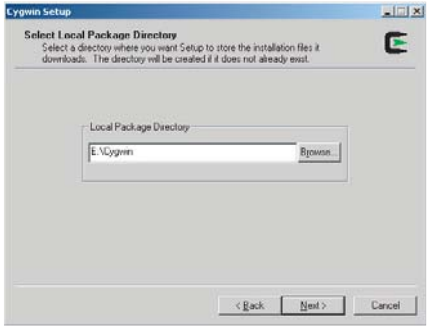
5. Click [Next (N)].



4037F2E547DA

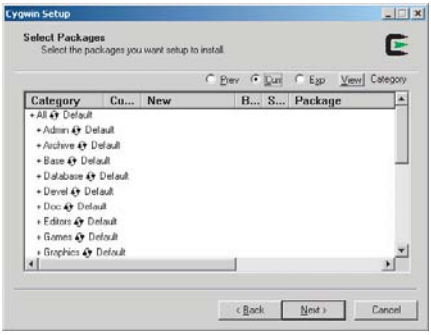
6. Specify the place of the data to be installed.
For installing from CD-ROM, select the [cygwin] folder in CD-ROM drive.
(Described below is the sample procedure when CD-ROM drive is E-drive.)

7. Click [Next (N)].


Cygwin Setup
Select Local Package Directory
Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.
Local Package Directory
E:\Cygwin
Browse...
< Back
Next >
Cancel

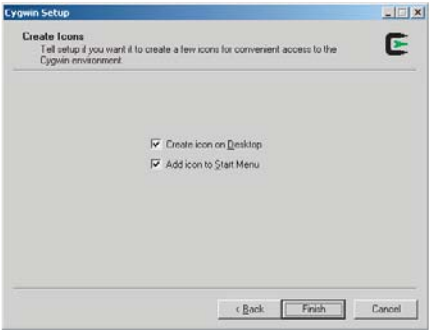
4037F2E548DA

8. Click [Next (N)].



4037F2E549DA

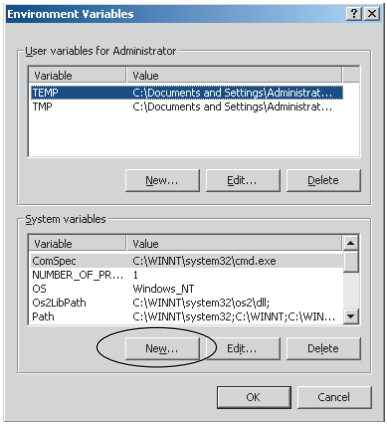
9. Click [Complete] to start installing.


Cygwin Setup
Create Icons
Tell setup if you want it to create a few icons for convenient access to the Cygwin environment
Create icon on Desktop
Add icon to Start Menu
< Back
Finish
Cancel

4037F2E550DA

10. After installing, open the Property of “My Computer”, and click the “Environmental Variable” of “Advanced” tab.

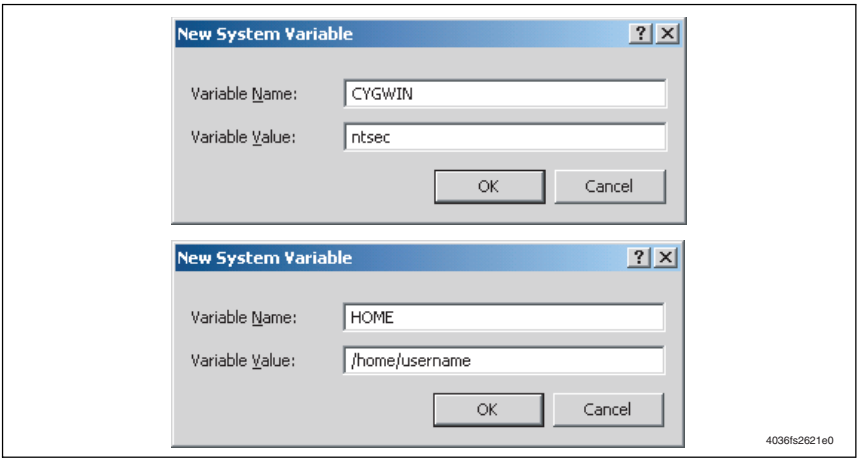
11. Click the “New” in System Variable Setting.



4036fs2620e0

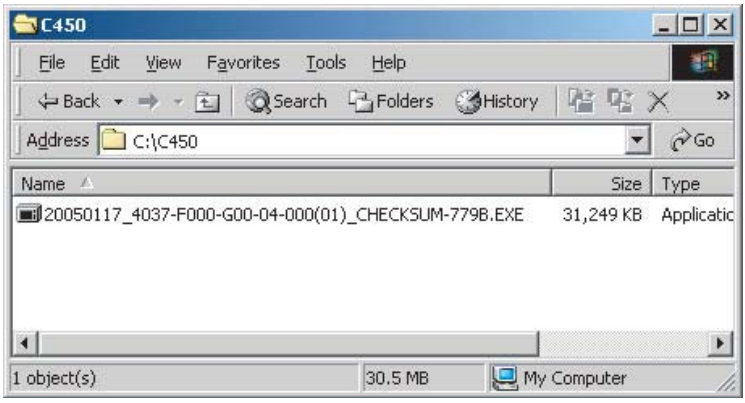
12. Set the following two values as the Windows Environmental Variable.

Variable name	Variable value
CYGWIN	ntsec
HOME	/home/username



5.1.4 Writing into the Compact flash

1. Put the data of Firmware in the optional directory. (C:\C450 in the below figure)

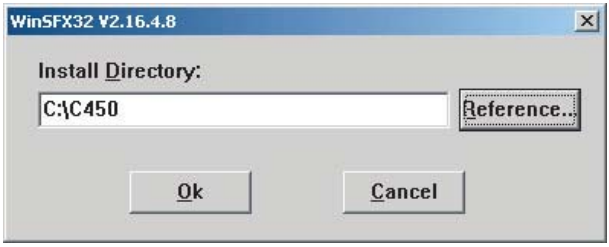


4037F2E541DA

NOTE

- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe."**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

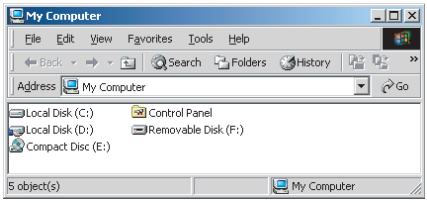


4037F2E542DA

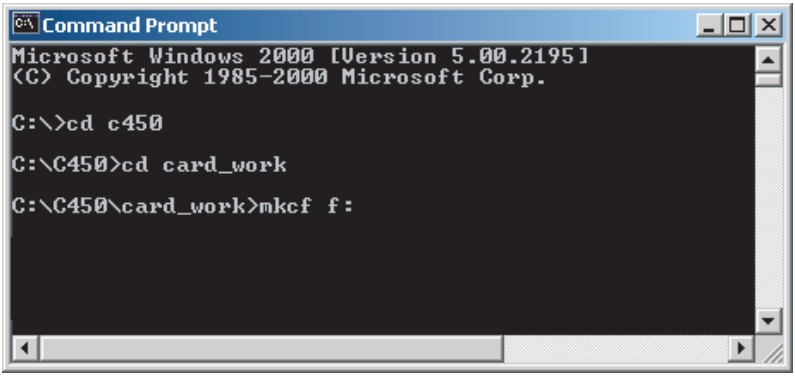
NOTE

- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

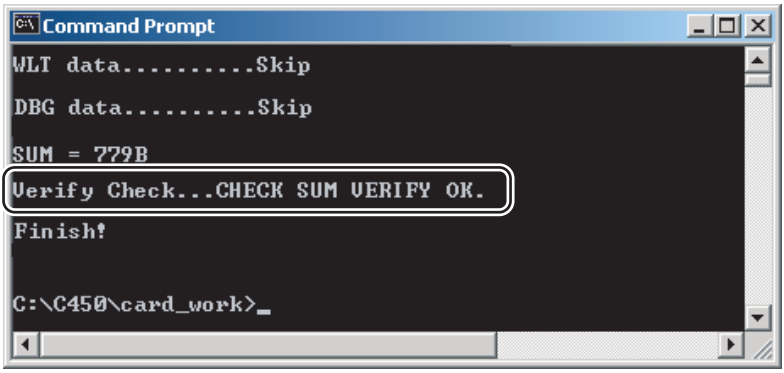
3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows. (F-drive in the following figure)



4. Click “Start” → “Program” → “Accessories” → “Command Prompt” to open the Command Prompt.
5. Use the Command prompt to move into the uncompressed directory.
6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mksf.bat.” (Input the C: \C450\card_work>mkcf f (Drive number): in the below figure, and push the “Enter”.)



7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

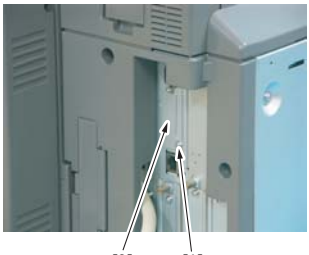
5.2 Firmware rewriting

- The F/W is updated using the Compact flash.

5.2.1 Updating method

NOTE

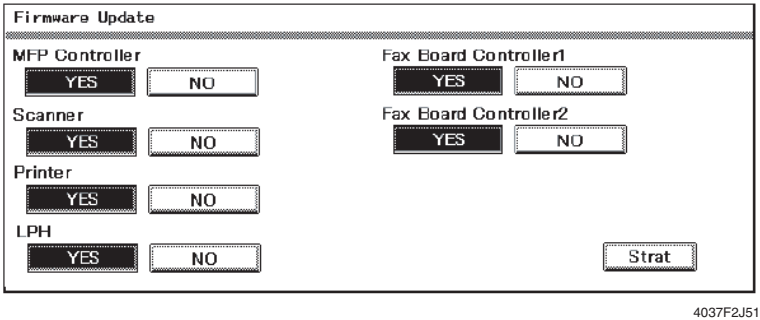
- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**



1. With the main power switch in the OFF position, unplug the power cord from the power outlet.
2. Remove the screw [1] and the metal Blanking Plate [2].

3. Insert the Compact Flash card into the slot.

4. Plug the power cord into the power outlet and turn ON the main power switch.
5. Up to six types of F/W will be displayed on the control panel.
6. Select the particular type of F/W to be updated.



7. Press the Start key. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly ("Downloading Completed"). Check also the Check Sum value ("Check Sum XXXX") shown on the Touch Panel. (The Start key blinks green.)
9. Turn OFF the main power switch.
10. Unplug the power cord from the power outlet.
11. Remove the Compact Flash card from the slot.
12. Plug the power cord and turn ON the main power switch.
13. Call the Service Mode to the screen.
14. Select "Firmware Version".
15. Make sure if the version of Firmware is updated.

5.2.2 Action When Data Transfer Fails

- If "NG" appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the memory card for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused "NG" and carry out data rewriting procedure.

MFP Controller	MFP Control Board (PWB-MFPC)
Scanner	Image Processing Board (PWB-C)
Printer	Control Board (PWB-MC)
LPH	LED Drive Board (PWB-LED)
Fax Board Controller1	Fax Board *1
Fax Board Controller2	Not Used

*1: The Optional FAX kit is necessary for the above procedure.

6. Other

6.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTE

- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

6.2 Disassembly/Assembly/Cleaning list (Other parts)

6.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref.Page
1	Exterior parts	Original Glass	☞ 54
2		IR Upper Right Cover	☞ 53
3		Control Panel	☞ 55
4		IR Front Cover	☞ 54
5		IR Upper Front Cover	☞ 53
6		IR Left Cover	☞ 51
7		IR Upper Left Cover	☞ 53
8		IR Upper Rear Cover	☞ 53
9		IR Right Cover	☞ 50
10		Rear Left Cover	☞ 51
11		Panel Cover	☞ 52
12		Front Door	☞ 52
13		Front Left Cover	☞ 51
14		Front Right Cover	☞ 50
15		Rear Cover	☞ 52
16		Rear Right Cover	☞ 52
17		Exit Tray	☞ 51
18		Tray 1	☞ 56
19		Tray 2	☞ 57
20		Tray 1 Front right cover	☞ 52
21		Lower Rear Cover	☞ 52
22		Tray 2 Rear Cover	☞ 52
23		Tray 2 Rear Right Cover	☞ 51
24		Multi Bypass Right Cover	☞ 50
25		Multi Bypass Left Cover	☞ 50

No.	Section	Part name	Ref.Page
26	Board and etc.	Scanner Motor Drive Board	☞ 57
27		CCD Unit	☞ 58
28		Image Processing Board	☞ 59
29		Copier Board	☞ 61
30		LAN Board	☞ 62
31		Standard Memory	☞ 63
32		Hard Disk Drive	☞ 63
33		Electronic Sorting Board	☞ 64
34		MFP Control Board	☞ 65
35		Control Board	☞ 66
36		Slide Interface Board	☞ 67
37		High Voltage Unit/1	☞ 69
38		High Voltage Unit/2	☞ 70
39		Tray 1 Paper Size Board	☞ 71
40		DC Power Supply	☞ 71
41	Board and etc.	LED Drive Board	☞ 73
42		Tray 2 Board	☞ 74
43		Tray 2 Paper Size Board	☞ 74
44		Inverter Board	☞ 75
45	Unit	Multi Bypass Unit	☞ 76
46		Hopper Unit	☞ 77
47		LPH Unit	☞ 79
48	IR	Scanner Motor	☞ 82
49		Scanner Assy	☞ 84
50		Scanner Wire	☞ 85

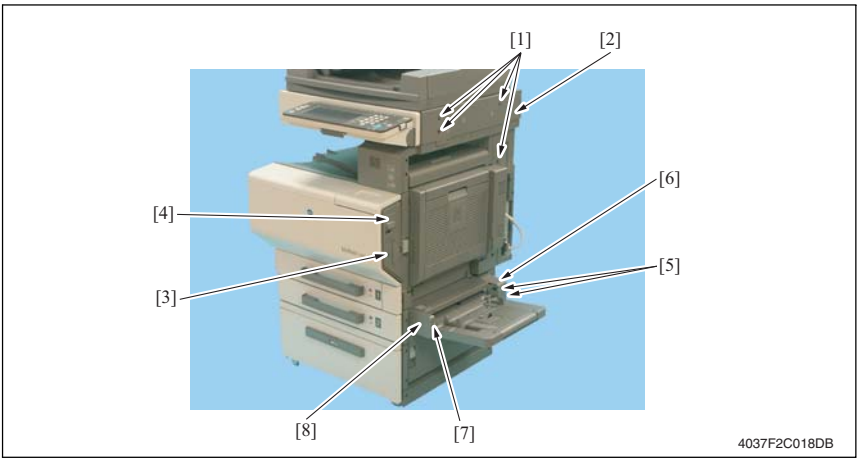
No.	Section	Part name	Ref.Page
51	Others	PWB Unit	☞ 92
52		PWB Box	☞ 93
53		Main Motor	☞ 96
54		Fusing Drive Motor	☞ 96
55		Toner Supply Motor C/K	☞ 97
56		Toner Supply Motor Y/M	☞ 98
57		Tray 2 Lift-Up Motor	☞ 98
58		Tray 2 Paper Feed Motor	☞ 99
59		Tray 2 Vertical Transport Motor	☞ 100
60		Color PC Drum Motor	☞ 101
61		Color Developing Motor	☞ 103
62		K PC Motor	☞ 104
63		1st Image Transfer Pressure/Retraction Motor	☞ 105
64		2nd Image Transfer Pressure/Retraction Motor	☞ 106
65		Intermediate Transport Motor	☞ 107
66		Fusing Pressure Roller Pressure/Retraction Motor	☞ 109
67		Cleaning Brush Motor	☞ 112
68		IDC/Registration Sensor/1,2	☞ 114
69		LPH Assy	☞ 115
70		ATDC Sensor Y/M/C	☞ 119

6.2.2 Cleaning parts list

No.	Section	Part name	Ref.Page
1	Tray 1	Paper Take-up Roller	☞ 120
2		Separation Roller	☞ 120
3	Bypass	Paper Take-up Roller	☞ 121
4		Separation Roller	☞ 121
5	Tray 2	Paper Take-up Roller	☞ 122
6		Pick-up Roller	☞ 122
7		Separation Roller	☞ 122
8		Transport Roller	☞ 124
9	IR	Scanner Rail	☞ 124
10		Mirrors (1st/2nd/3rd)	☞ 125
11		Lens	☞ 125
12		Original Glass	☞ 126
13		CCD Sensor	☞ 126

6.3 Disassembly/Assembly procedure

6.3.1 IR Right Cover/Front Right Cover/Bypass Right & Left Cover

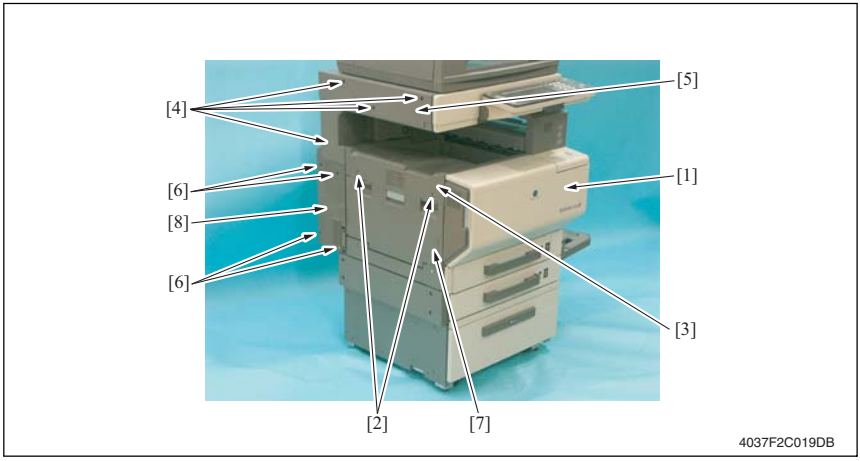


1. Remove four Screws [1], and remove the IR Right Cover [2].
2. Remove the Panel Cover.

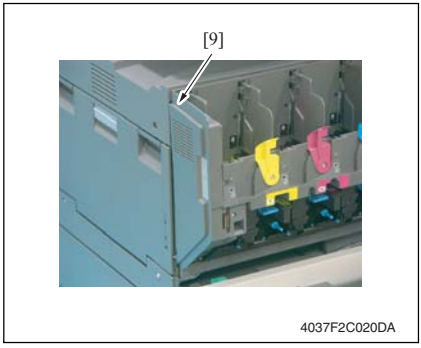
☞ 52

3. Remove the Screw [3], and remove the Front Right Cover [4].
4. Remove two Screws [5], and remove the Bypass Right Cover [6].
5. Remove the Screw [7], and remove the Bypass Left Cover [8].

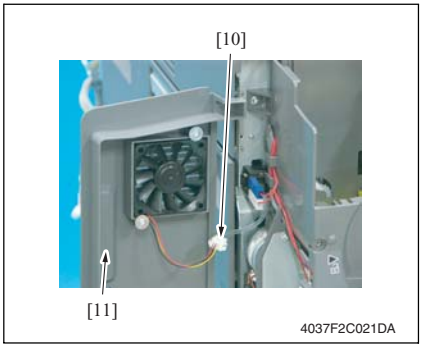
6.3.2 Exit Tray/IR Left Cover/Rear Left Cover/Left Front Cover



1. Open the Front Door [1].
2. Remove two Screws [2], and remove the Exit Tray [3].
3. Remove four Screws [4], and remove the IR Left Cover [5].
4. Remove four Screws [6].
5. Open the Left Door [7], and remove the Rear Left Cover [8].

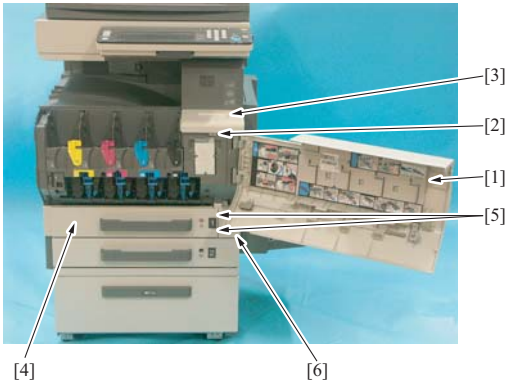


6. Remove the Screw [9].



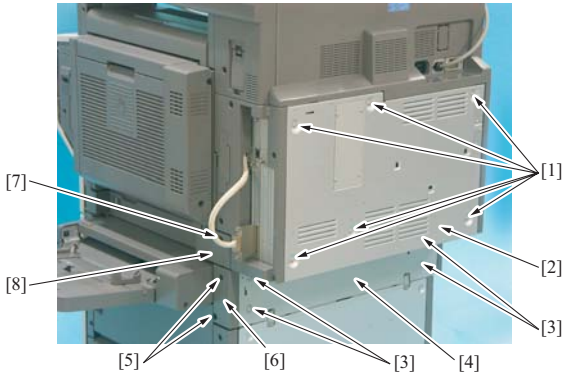
7. Remove Connectors [10] and the Left Front Cover [11].

6.3.3 Front Door/Panel Cover/Tray 1 Front Right Cover

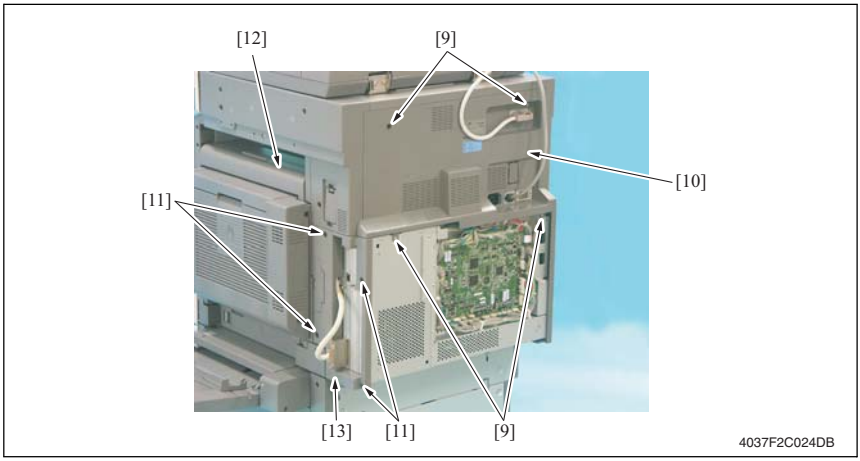


1. Open the Front Door [1].
2. Remove the Screw [2], and remove the Panel Cover [3].
3. Pick up the Front Door [1] and remove it.
4. Pull out the Tray 1 [4].
5. Remove two Screws [5], and remove the Tray 1 Front Right Cover [6].

6.3.4 Lower Rear Cover/Tray 2 Rear Cover/Rear Cover/Rear Right Cover/Tray 2 Rear Right Cover/Wiring Cover

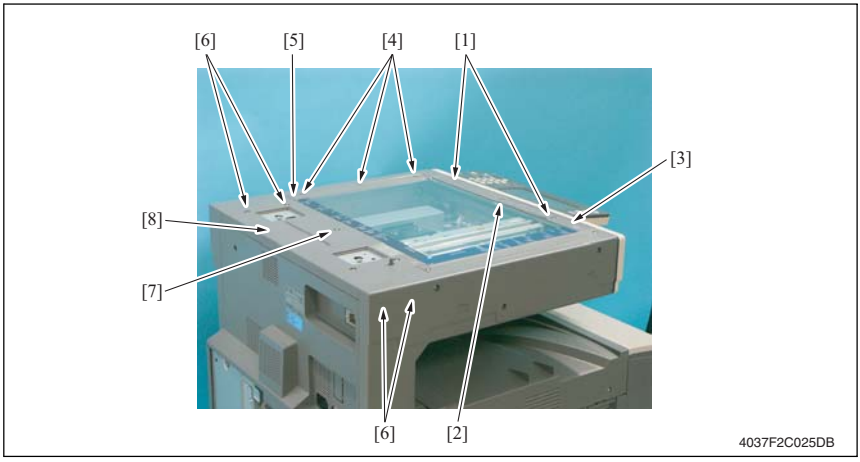


1. Remove six Screws [1], and remove the Lower Rear Cover [2].
2. Remove four Screws [3], and remove the Tray 2 Rear Cover [4].
3. Remove two Screws [5], and remove the Tray 2 Rear Right Cover [6].
4. Remove the Screw [7], and remove the Wiring Cover [8].



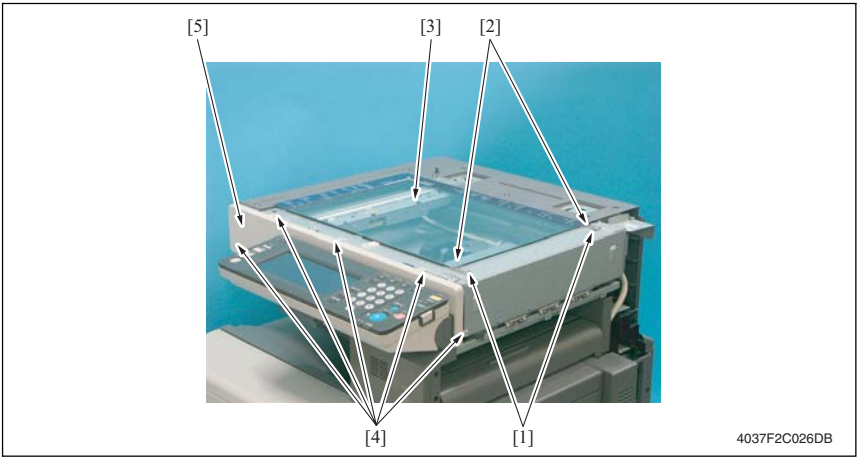
5. Remove four Screws [9], and remove the Rear Cover [10].
6. Remove four Screws [11].
7. Open the Right Door [12], and remove the Rear Right Cover [13].

6.3.5 IR Upper Front Cover/IR Upper Right Cover/IR Upper Rear Cover



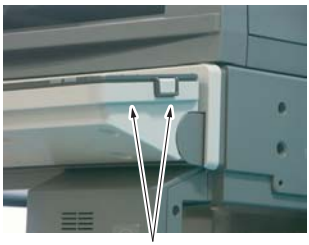
1. Remove two Shoulder Screws [1] and a Screw [2], and remove the IR Upper Front Cover [3].
2. Remove three Screws [4], and remove the IR Upper Right Cover [5].
3. Remove four Shoulder Screws [6] and three Screws [7], and remove the IR Upper Rear Cover [8].

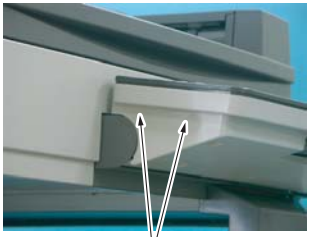
6.3.6 Original Glass/IR Front Cover



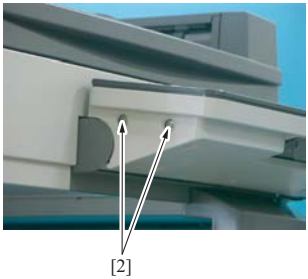
1. Remove the IR Upper Right Cover.
☞ 53
2. Remove each Screw [1], and remove the Original Glass fixing bracket (near side/inmost side) [2].
3. Remove the Original Glass [3].
4. Remove the IR Right Cover and IR Upper Front Cover.
☞ 50, 53
5. Remove the IR Left Cover.
☞ 51
6. Remove five Screws [4], and remove the IR Front Cover [5].

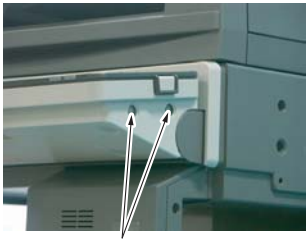
6.3.7 Control Panel (UN201)



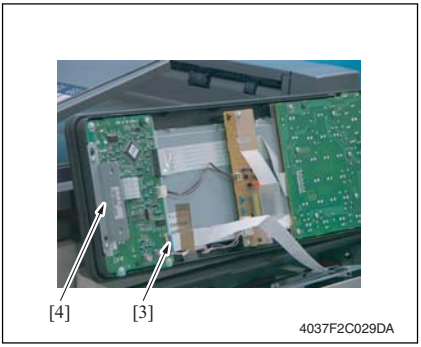


1. Remove four caps [1] at both ends of Control Panel.



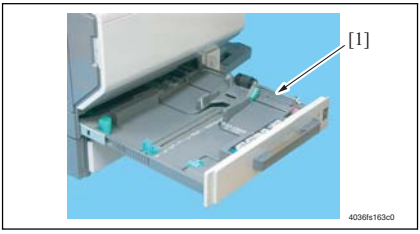


2. Remove four Screws [2].

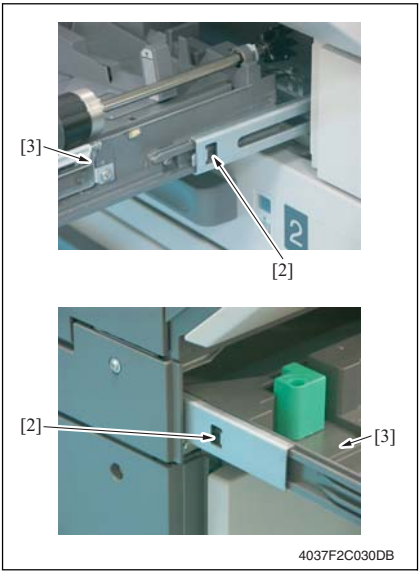


3. Remove the Flat Cable [3].
4. Remove the Control Panel [4].

6.3.8 Tray 1

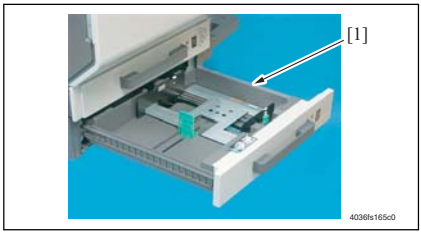


1. Slide out the Tray 1 [1].

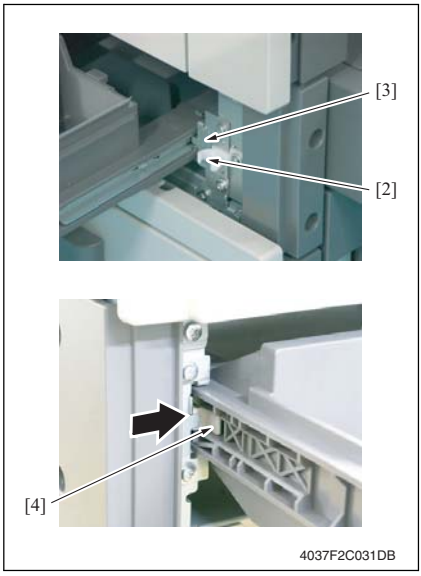


2. Slide out the Tray 1 [3] while pressing the Slide Locks [2] at both ends.

6.3.9 Tray 2

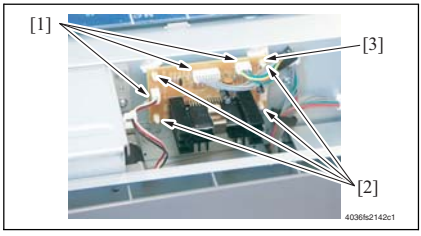


1. Slide out the Tray 2 [1].



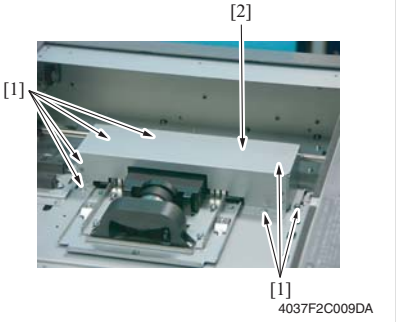
2. Remove one Screw [2], and remove the Stopper [3].
3. Slide out the Tray 2 while pressing the Slide Locks [4].

6.3.10 Scanner Motor Drive Board (PWB-IC)



1. Remove the IR Upper Rear Cover.
☞ 53
2. Remove three Connectors [1] and four Board Supports [2].
3. Remove the Scanner Motor Drive Board [3].

6.3.11 CCD Unit

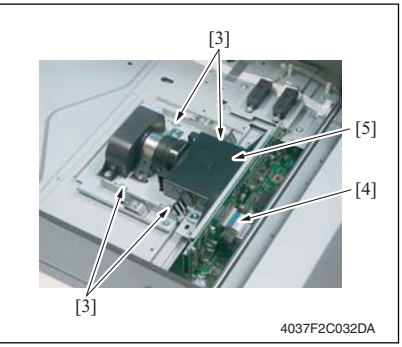


A. Removal Procedure

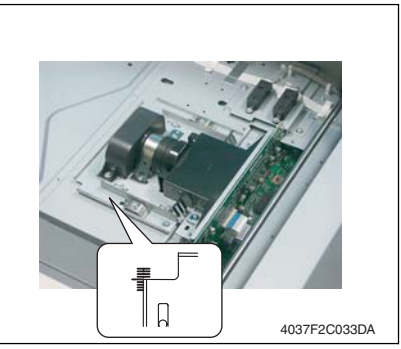
1. Remove the Original Glass.

☞ 54

2. Remove seven Screws [1], and remove the CCD Unit Cover [2].



3. Remove four Screws [3] and Flat Cable [4], and remove the CCD Unit [5].



B. Reinstallation Procedure

1. Align the CCD Unit with the center of the graduations as illustrated on the left and then tighten the four screws.

2. Reinstall the Original Glass.
3. Turn ON the main power switch.

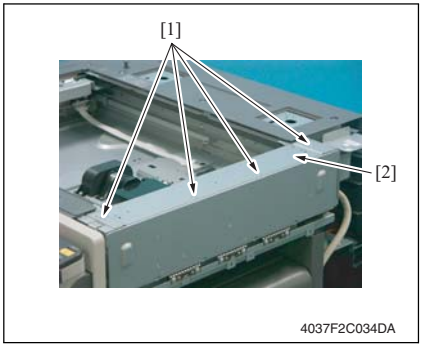
4. Carry out the Cross Direction Adjustment. If the specifications are not met, loosen the CCD Unit mounting screws and move the CCD Unit in the sub scan direction as necessary.

☞ 232

NOTE

- **Hold the CCD Unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it, as a varied distance between the CCD sensor and lens results.**
- **When CCD unit is replaced, "Scan Calibration" and "Line Mag" Setting under System 2 available in Service Mode should be OFF.**

6.3.12 Image Processing Board (PWB-C)



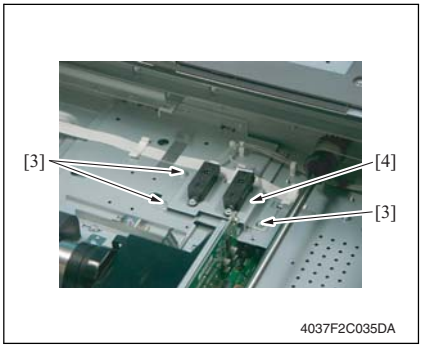
1. Remove the Rear Cover and IR Right Cover.

☞ 52

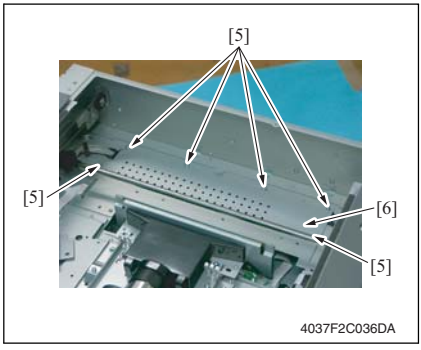
2. Remove the CCD Unit Cover.

☞ Refer to the step1 on page 126.

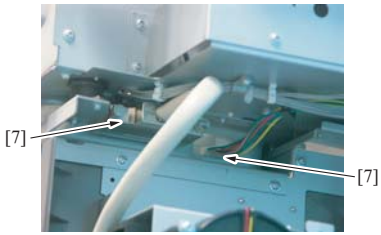
3. Remove four Screws [1], and remove the IR Frame Protective Cover [2].



4. Remove three screws [3], and remove the Original Size Detection Sensor Assy [4].

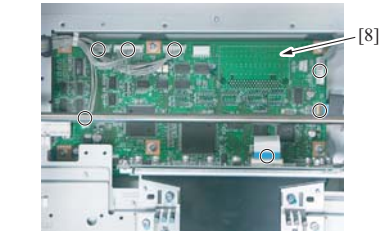


5. Remove six screws [5], and remove the Board cover [6].



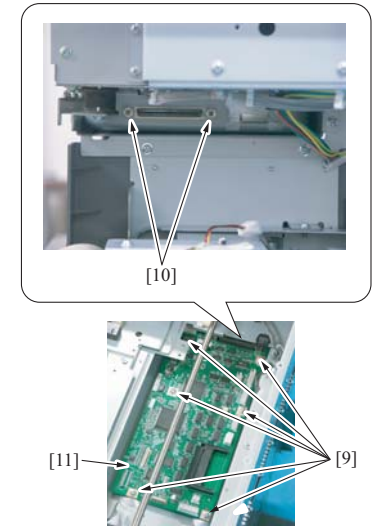
4037F2C037DA

6. Remove two connectors [7].



4037F2C038DA

7. Remove all the Connectors and Flat Cables on the Image Processing Board [8].



4037F2C039DB

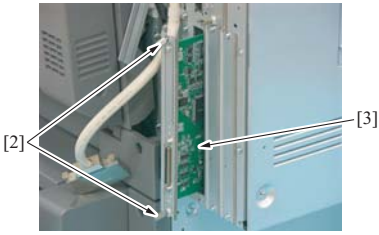
8. Remove six Screws [9] and two Bolts [10], and remove the Image Processing Board [11].

NOTE

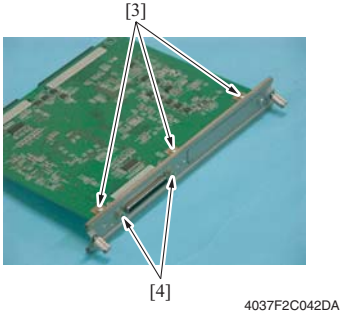
- **When the Image Processing Board is to be replaced, rewriting the Firmware to the latest one.**

6.3.13 Copier Board (PWB-CF)

1. Remove the right rear cover
☞ 52
2. Remove the connector [1].

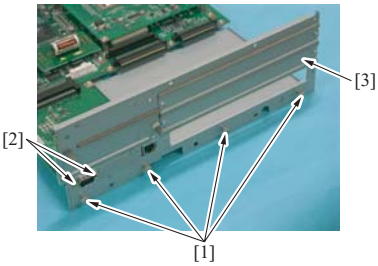


3. Loosen two screws [2], and pull out the Copier Board Assy [3].

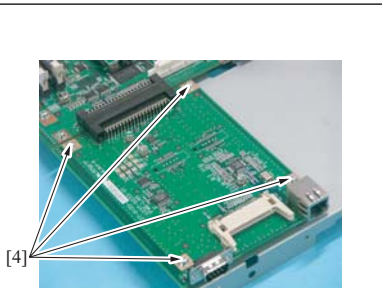


4. Remove three screws [4] and two hex-head screws [5].

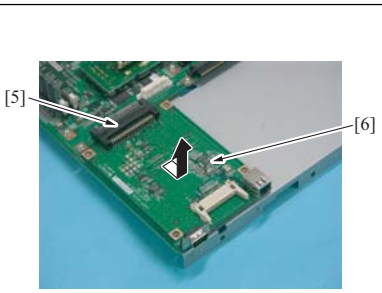
6.3.14 LAN Board (PWB-LAN)



1. Remove the PWB Unit.
☞ 92
2. Pull out the Copier Board.
3. Remove four screws [1] and two hex-head screws [2]. Remove the Interface Cover [3].

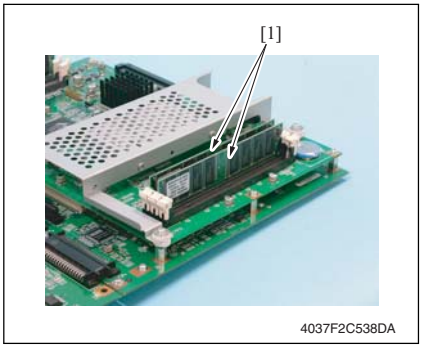


4. Remove four screws [4].



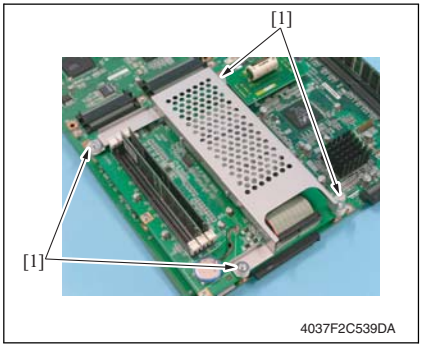
5. Remove the Interface connector [5] and LAN Board [6].

6.3.15 Standard Memory (D_FILE0)

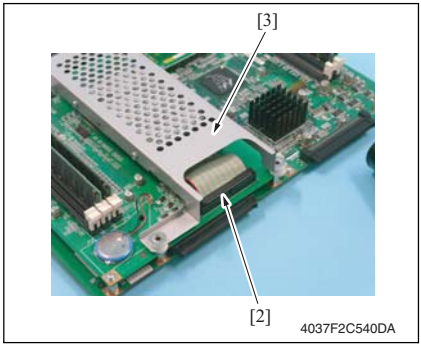


1. Remove the PWB Unit.
☞ 92
2. Remove two Standard memories [1].

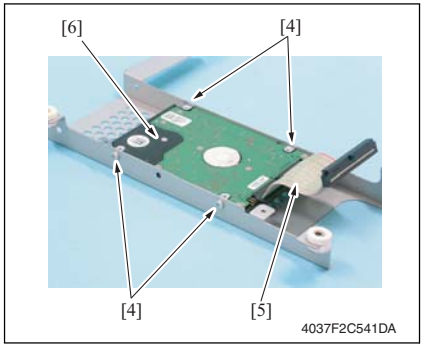
6.3.16 Hard Disk Drive (HDD)



1. Remove the PWB Unit.
☞ 92
2. Remove four screws [1].



3. Remove the Flat cable [2] and the Hard Disk Drive Assy [3].

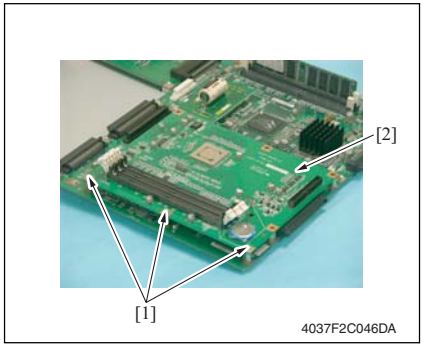


4. Remove four screws [4] and the Flat cable [5]. Remove the Hard Disk Drive [6].

NOTE

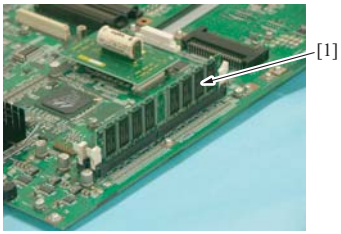
- **When the Hard Disk is replaced, select "State Confirmation" → "Memory/HDD Adj." → "HDD Format" in Service Mode for Logical format.**

6.3.17 Electronic Sorting Board (PWB-ES)



1. Remove the PWB Unit.
☞ 92
2. Remove three screws [1] and the Electronic sorting Board [2].

6.3.18 MFP Control Board (PWB-MFPC)

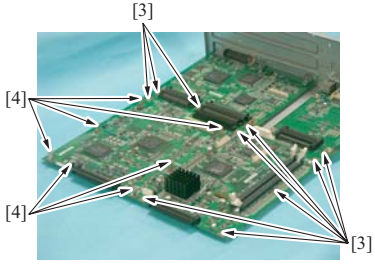


4037F2C049DA

1. Remove the PWB Unit.
☞ 92
2. Remove the Electronic sorting Board.
☞ 64
3. Remove the work memory [1] on the MFP Control Board.

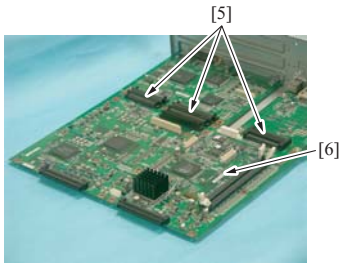
4037F2C050DA

4. Remove the NVRAM [2] on the MFP Control Board.



4037F2C047DA

5. Remove three screws [3] and seven shoulder screws [4].



4037F2C048DA

6. Remove three Interface connectors [5] and the MFP Control Board [6].

Note on replacing the MFP Control Board

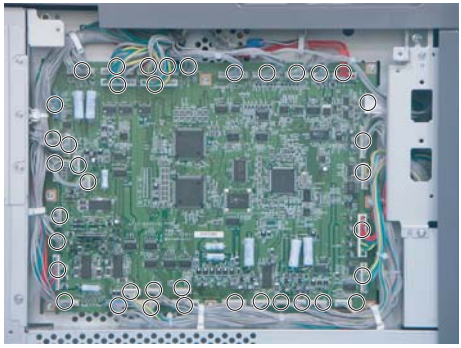
- **When the MFP Control Board is replaced, mount the removed Backup RAM to the new MFP Control Board.**
- **When the MFP Control Board is replaced, make sure to update the firmware.**

6.3.19 Control Board (PWB-MC)

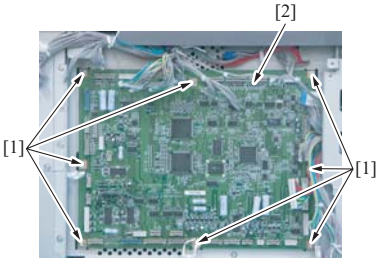
1. Remove the Lower Rear Cover.

☞ 52

2. Remove all the Connectors on the Control Board.



4037F2C051DB



4037F2C052DA

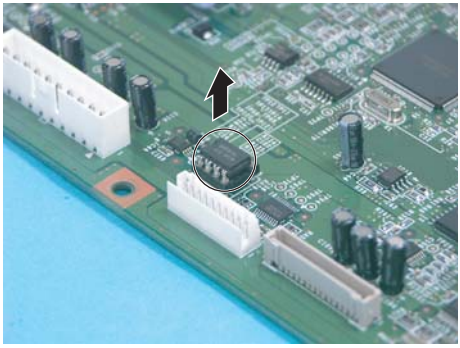
3. Remove eight Screws [1], and remove the Control Board [2].

NOTE

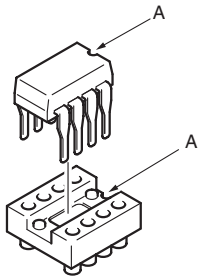
- **When the Control Board is to be replaced, rewriting the Firmware to the latest one.**

Cautions in replacing the Control Board:

- **When Control Board (PWB-MC) is replaced, relocate the Parameter Chip (IC40). Mount the Parameter Chip (IC40) of old Control Board onto the new Control Board.**



4037F2C053DB

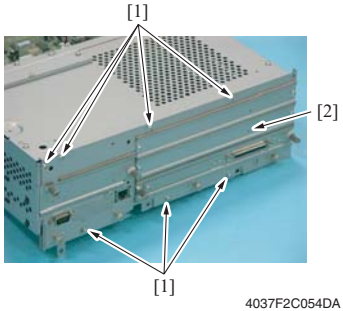


4037F2C534DA

NOTE

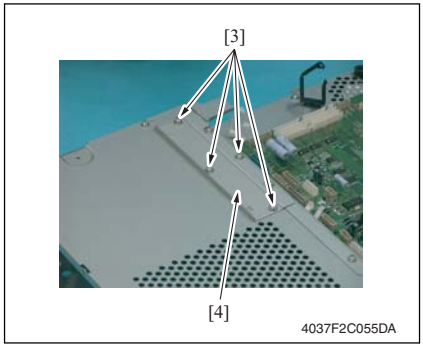
- **When the Parameter Chip (IC40) is mounted, precisely fit the directions of each "A".**

6.3.20 Slide Interface Board (PWB-SIF)

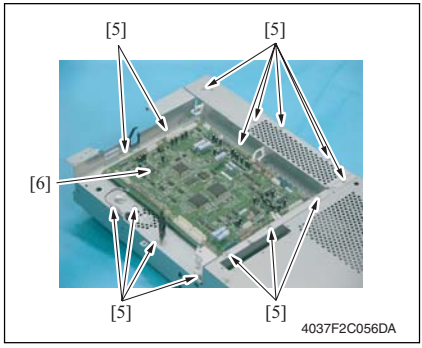


4037F2C054DA

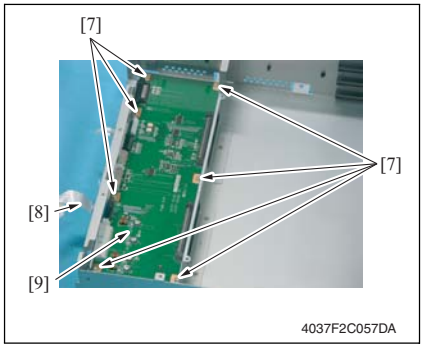
1. Remove the PWB Box.
☞ 93
2. Remove seven screws [1] and the Board Unit [2].



3. Remove four screws [3] and the cover [4].

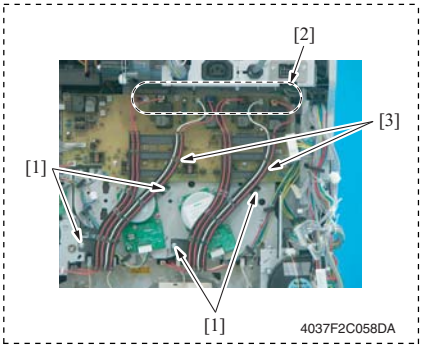


4. Remove fifteen screws [5] and the Control Board Assy [6].

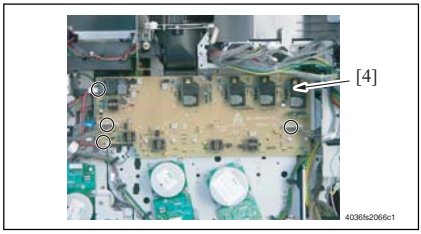


5. Remove seven screws [7] and the Flat cable [8]. Remove the Slide Interface Board [9].

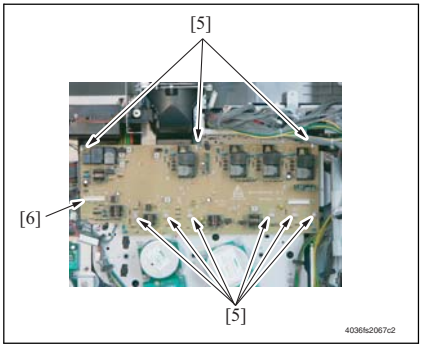
6.3.21 High Voltage Unit/1 (HV1)



1. Remove the PWB Box.
☞ 93
2. Remove four Screws [1] and eight Connectors [2], and remove two Harness Holder [3].

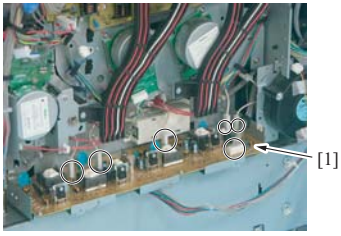


3. Remove all the Connectors on the High Voltage Unit/1 [4].



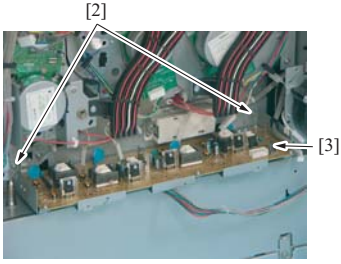
4. Remove 9 Screws [5], and remove the High Voltage Unit/1 [6].

6.3.22 High Voltage Unit/2 (HV2)



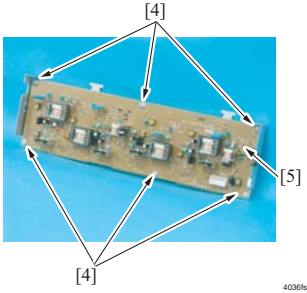
4037F2C059DA

1. Remove the PWB Box.
☞ 93
2. Remove all the Connectors on the High Voltage Unit/2 [1].



4037F2C060DA

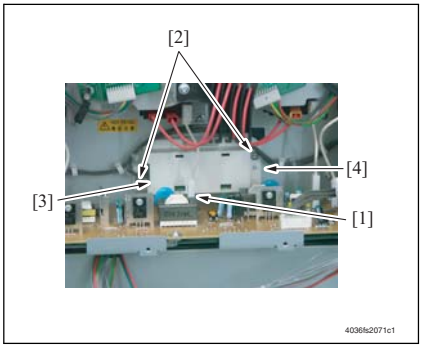
3. Remove two Screws [2], and remove the High Voltage Unit/2 Assy [3].



4036fs2070c1

4. Remove six Screws [4], and remove the High Voltage Unit/2 [5].

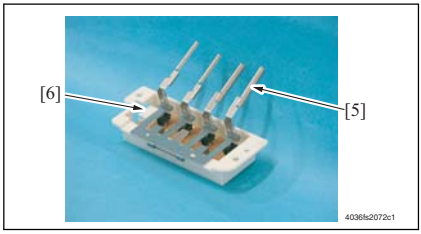
6.3.23 Tray 1 Paper Size Board (PWB-I1)



1. Slide out the Tray 1.
2. Remove the PWB Box.

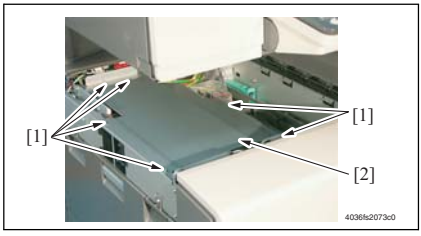
☞ 93

3. Remove the Connector [1] on the High Voltage Unit/2.
4. Remove two Screws [2] and Connector [3], and remove the Tray 1 Paper Size Board Assy [4].



5. Remove the Lever [5].
6. Remove the Tray 1 Paper Size Board [6].

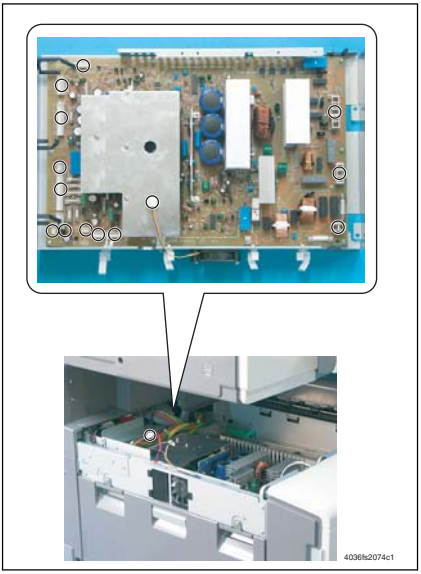
6.3.24 DC Power Supply (PU1)



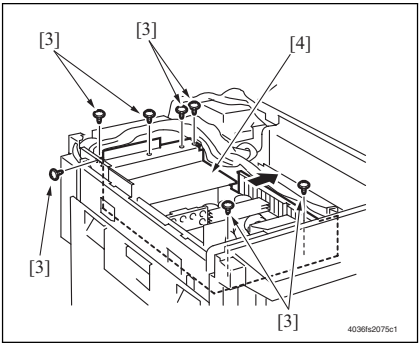
1. Remove the Exit Tray.

☞ 51

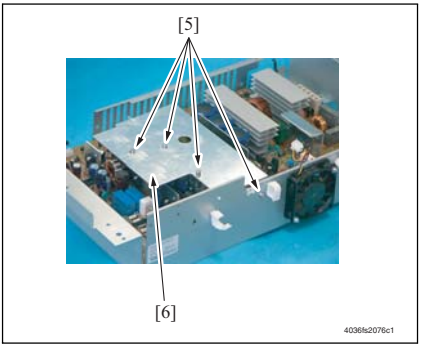
2. Remove six Screws [1], and remove the Board Cover [2].



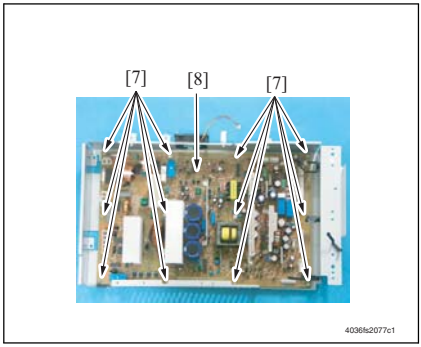
3. Remove the Harness from thirteen wire saddles.
4. Unplug all connectors from the DC Power Supply.



5. Remove seven Screws [3], and remove the DC Power Supply Assy [4].

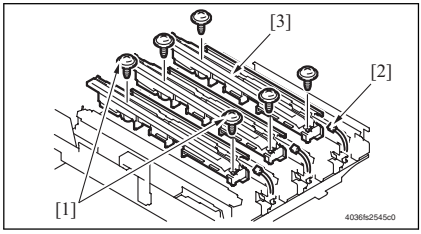


6. Remove four Screws [5], and remove the Protective Cover [6].

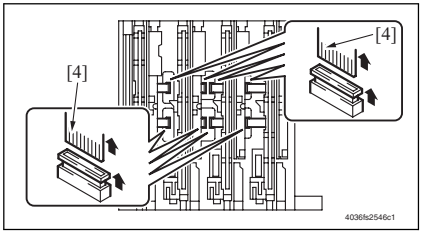


7. Remove 12 Screws [7], and remove the DC power Supply [8].

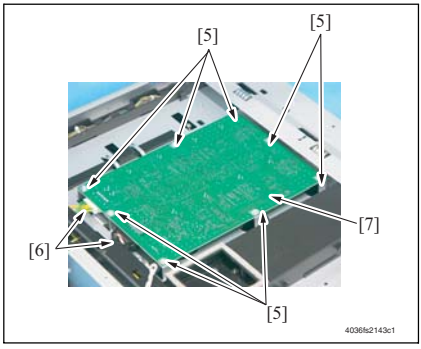
6.3.25 LED Drive Board (PWB-LED)



1. Remove the LPH Unit.
☞ 79
2. Remove two screws [1], unplug the connector [2] each, and remove each guide Assy.



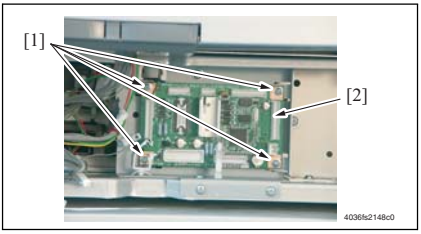
3. Remove the flat cables [4] (eight).



4. Remove eight screws [5], unplug two connectors [6], and remove the LED Drive Board [7].

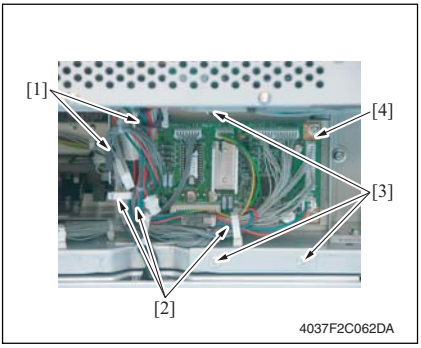
6.3.26 Tray 2 Board (PWB-Z)

1. Remove the Tray 2 Rear Cover.
☞ 52
2. Remove all the Connectors on the Tray 2 Board.

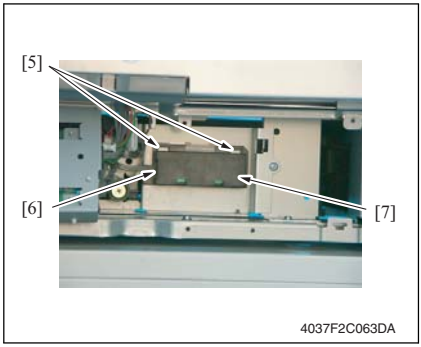


3. Remove four Screws [1], and remove the Tray 2 Board [2].

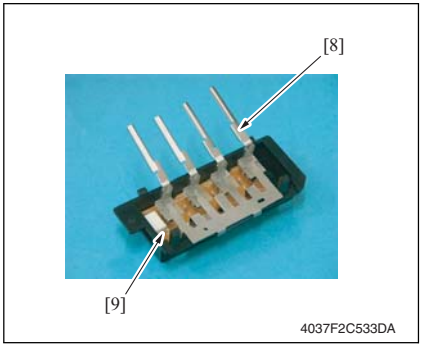
6.3.27 Tray 2 Paper Size Board (PWB-I2)



1. Slide out the Tray 2.
2. Remove the Tray 2 Rear Cover.
☞ 52
3. Remove the harness [2] from the wire saddle [1].
4. Remove three Screws [3], and remove the Tray 2 Board Fixing Bracket [4].

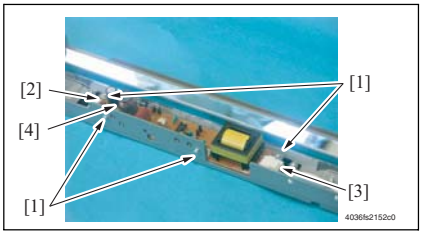


5. Remove two Claws [5] and Connector [6], and remove the Tray 2 Paper Size Board Assy [7].



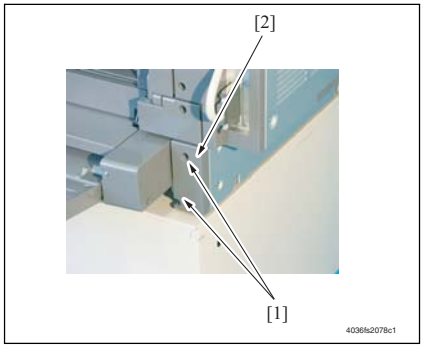
6. Remove the Lever [8], and remove the Tray 2 Paper Size Board [9].

6.3.28 Inverter Board (PU201)

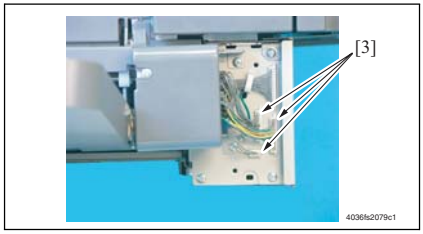


1. Remove the Scanner Assy.
☞ 84
2. Remove four Screws [1], Flat Cable [2] and Connector [3], and remove the Inverter Board [4].

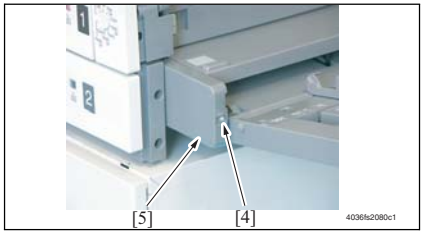
6.3.29 Multi Bypass Unit



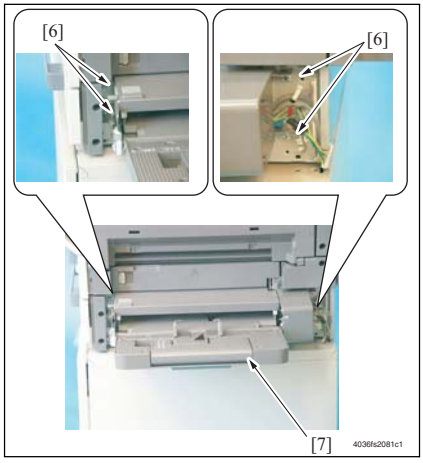
1. Remove two Screws [1], and remove the Tray 2 Rear Right Cover [2].



2. Remove three Connectors [3].



3. Remove the Screw [4], and remove the Bypass Left Cover [5].



4. Remove four Screws [6], and remove the Multi Bypass Unit [7].

NOTE

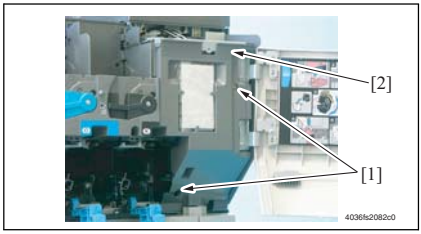
- **The earth terminal will be screwed with one of four screws.**

6.3.30 Toner Hopper Unit

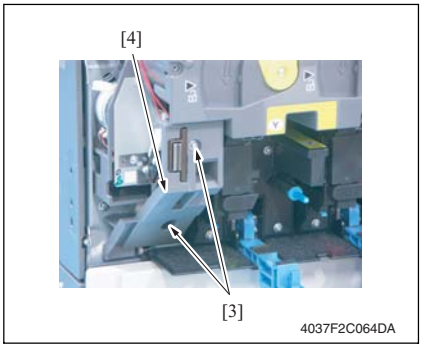
1. Open the Front Door.
2. Remove the Toner Cartridge (C, M, Y, K).
3. Remove the IU (C, M, Y, K).

NOTE

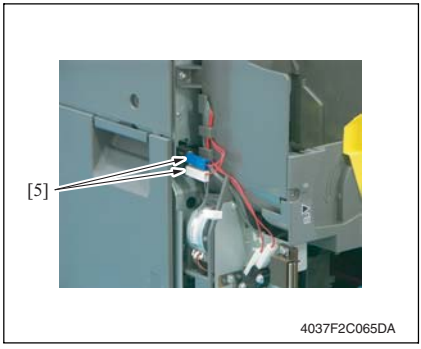
- **After the Imaging Unit has been removed from the main unit wrap it in the light shielding cloth and store it in a dark place. DO NOT leave the Imaging Unit exposed to light for a extended period of time as it will become damaged.**



4. Remove the Left Front Cover and Panel Cover.
☞ 51
5. Remove two Screws [1], and remove the Front Right Cover [2].



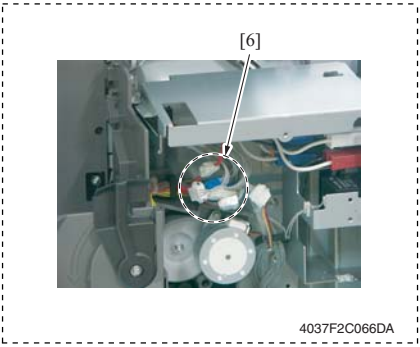
6. Remove two screws [3] and the Front Door Switch cover [4].



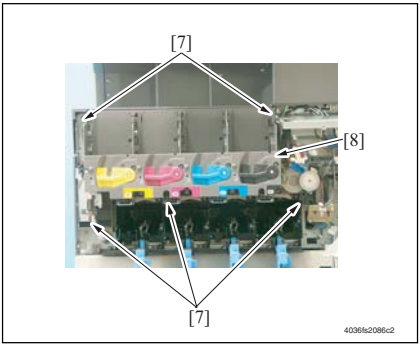
7. Remove two Terminals [5].

NOTE

- **For installation of Hopper Unit, connect the Terminals in the sequence of blue and then white from upper.**



8. Disconnect five connectors [6].



9. Remove five screws [7] and the Toner Hopper Unit [8].

6.3.31 LPH Unit

1. Open the Front Door.
2. Slide out the IU (C, M, Y, K).

NOTE

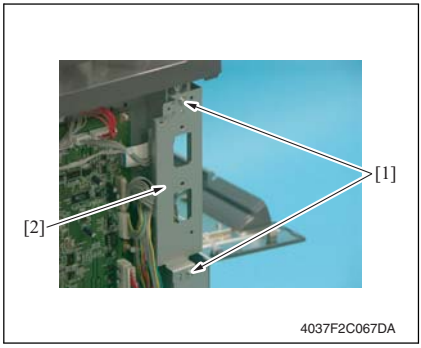
- **After the IU has been pulled out, place the IU lock lever back into the locked position. When installing the Imaging Unit into the main unit, make sure that the Toner supply shutter is opened if the Imaging Unit Lower Cover is not used.**

3. Remove the Image Transfer Belt Unit.

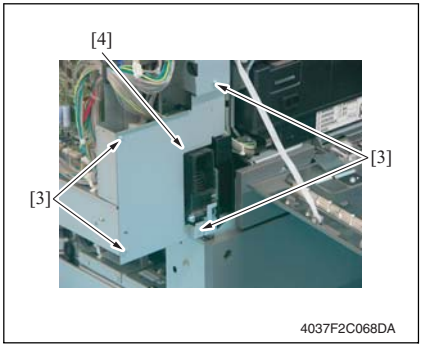
☞ 28

4. Remove the Rear Right Cover, Rear Left Cover and Rear Cover.

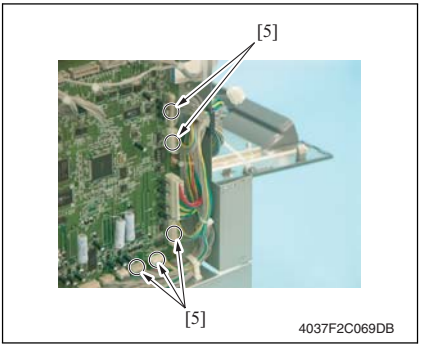
☞ 50



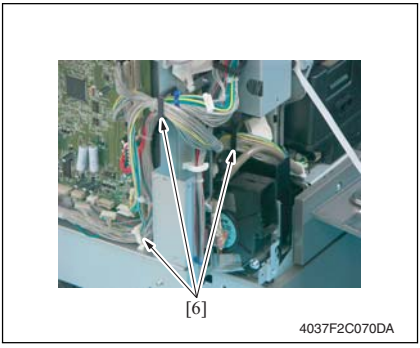
5. Remove two screws [1] and the lattice connector fixing bracket [2].



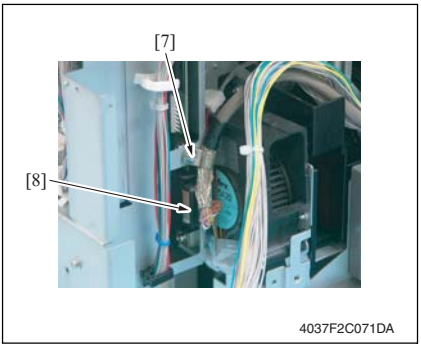
6. Open the Left Door.
7. Remove four Screws [3], and remove the Harness Protective Cover [4].



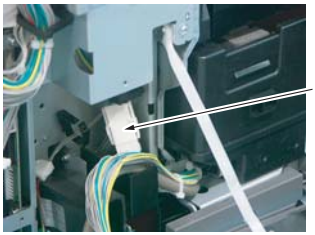
8. Remove five Connectors [5] on the Control Board.



9. Remove the harness from three wire saddles [6].

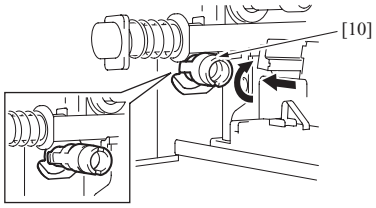


10. Remove the Screw [7] and Connector [8].



4037F2C072DA

11. Remove the Connector [9].

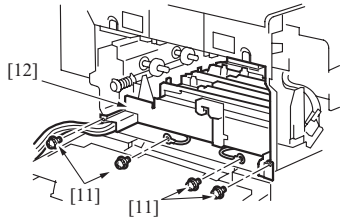


4037F2C073DA

12. Turning the IU (C, M, Y, K) drive hub [10], push it into the locked position (at four places).

NOTE

- **During the locking procedure, use care not to touch the LED surface.**
- **Should the LED surface be touched, clean it with the LED Cleaning Jig.**



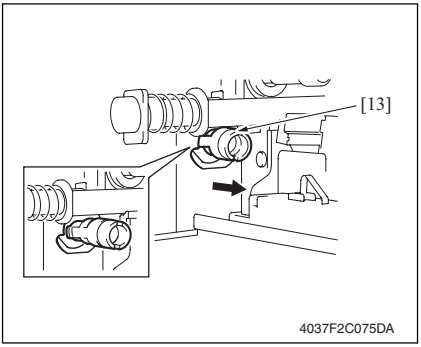
4037F2C074DA

13. Remove four screws [11] and slide out the LPH Unit [12].

NOTE

- **When the LPH Unit is to be replaced, remove the TCR Sensor from the old LPH Unit and remount it on the new one. This step is not, however, necessary if the IU is replaced at the same time.**

☞ For replacement of TCR Sensor, see page 119.



NOTE

- **After replacing the LPH Unit, be sure to turn four Drive Hubs [13] to release locking. Proceeding with job while still being locked may unintentionally release the locking condition, thus damaging the Drive hub.**
- **For installation of the LPH Unit, lock four Drive hubs again before installation.**
- **When the LPH Unit has been reinstalled, be sure to run "Stabilizer" available from "Image Adjust" of the Service Mode.**

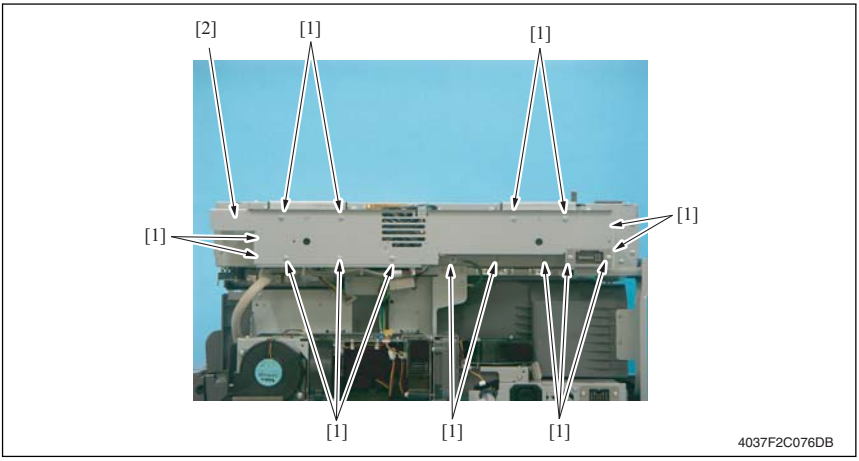
6.3.32 Scanner Motor (M201)

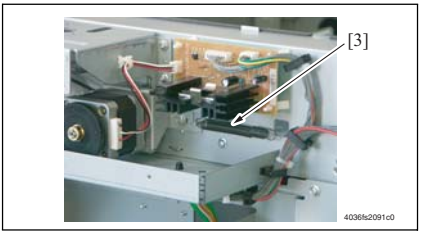
A. Removal Procedure

1. Remove the ADF.
2. Remove the Rear Cover and IR Upper Rear Cover.

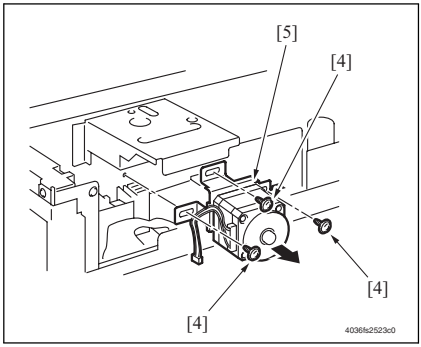
☞ 52

3. Remove 16 screws [1].
4. Remove the Connector and the reinforcement frame [2].

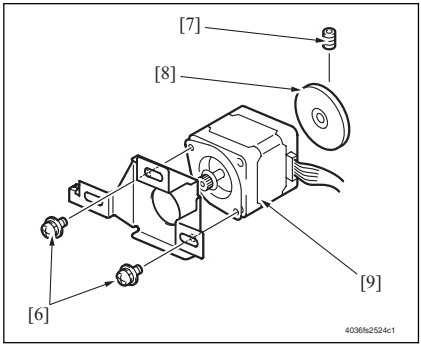




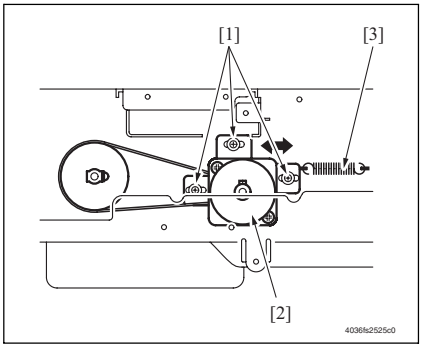
5. Remove the tension spring [3] for the Scanner Motor belt.



6. Remove three screws [4] and the Scanner Motor Assy [5].



7. Remove two screws [6], set screw [7], damper [8] and the Scanner Motor [9].



B. Reinstallation Procedure

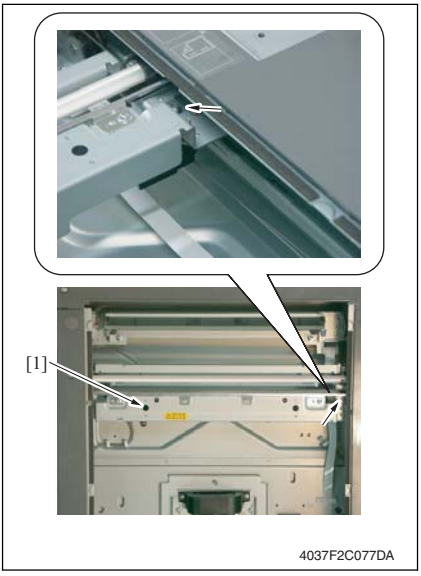
1. Temporarily secure the Scanner Motor Assy [2] using three screws [1].

2. Hook the spring [3].

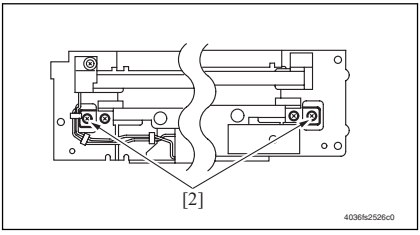
3. With the Scanner drive gear set screw located on the right-hand side as shown on the left, slide the Scanner Motor Assy to the left and check that it is returned to the original position by the tension of the spring. Perform this step three times.

4. Securely tighten the three screws to fix the Scanner Motor Assy [2] into position.

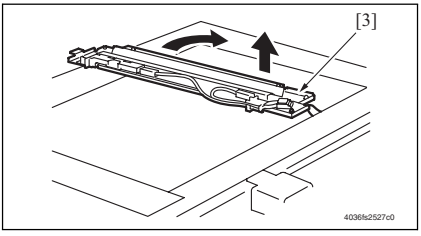
6.3.33 Scanner Assy



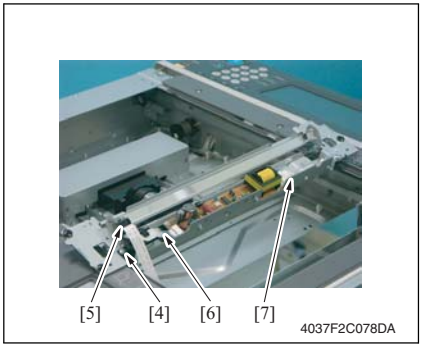
1. Remove the Original Glass.
☞ 54
2. Move the Scanner Assy [1] to the location shown and remove one mounting screw each at the front and rear end.



NOTE
- **Do not remove the Scanner Positioning Screws (red-painted) [2].**



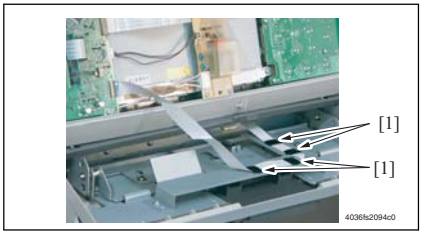
3. Take out the Scanner Assy [3] by turning it in the direction of the arrow shown.



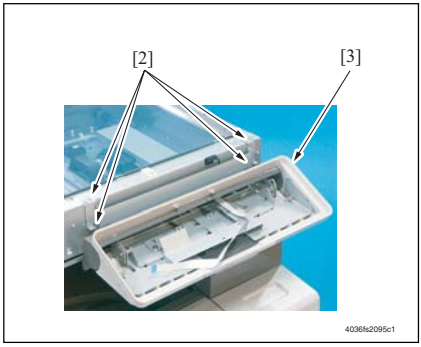
4. Remove the screw [4] and the holder [5].
5. Remove the flat cable [6].
6. Remove the Scanner Assy [7].

6.3.34 Scanner Drive Cables

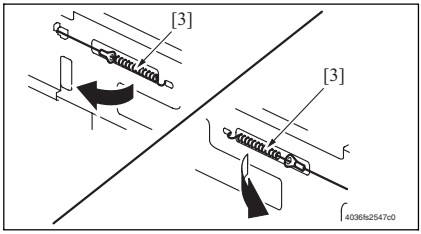
A. Removal Procedure



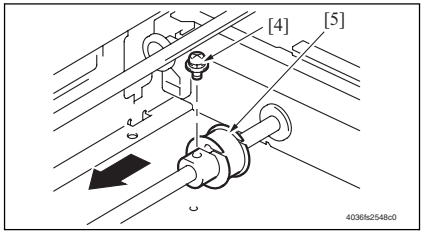
1. Remove the Rear Cover.
☞ 52
2. Remove the Control Panel.
☞ 55
3. Remove four Presser Bars [1] of Flat Cable.



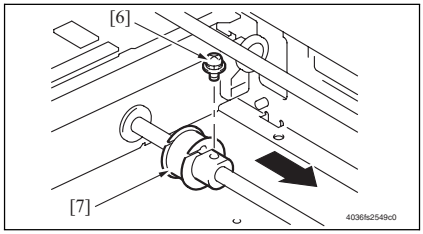
4. Remove the IR Front Cover.
☞ 54
5. Remove four screws [2] and the control panel base [3].



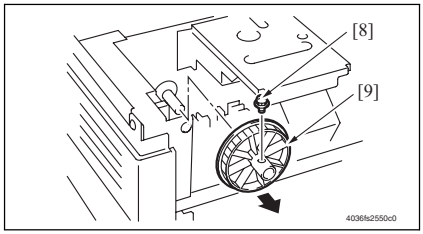
6. Remove the Original Glass.
☞ 54
7. Remove the Scanner Assy.
☞ 84
8. Unhook the springs [3] of the Scanner Drive Cables on the hook side, one each at the front and in the rear.



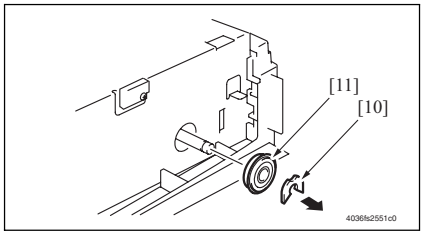
9. Remove the Scanner Motor Assy.
☞ 82
10. Remove the screw [4] and then slide the front pulley [5] toward the front.



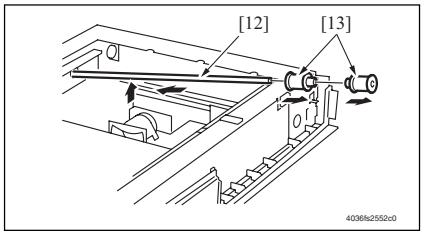
11. Remove the Screw [6], and slide the Wire Pulley [7] (Rear side) in the direction of front side.



12. Remove the screw [8] and the Scanner drive gear [9].



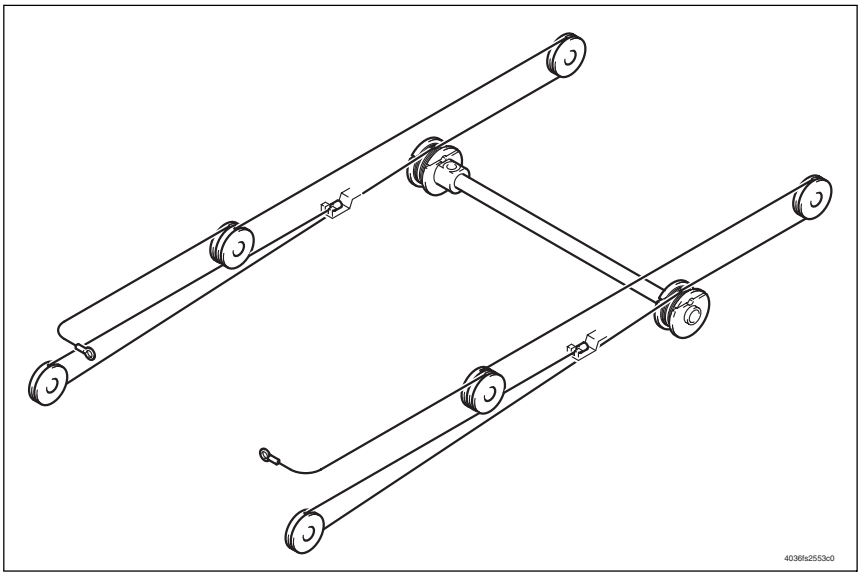
13. Snap off the C-clip [10] and remove the bushing [11] (front).



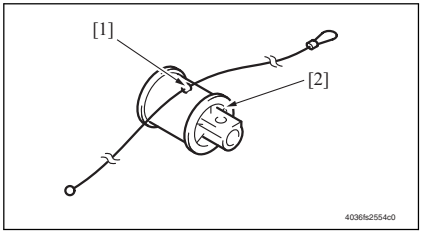
14. Slide the shaft [12] toward the rear and lift it. Then, remove the front and rear pulleys [13].
15. Remove the Scanner Drive Cables.

6.3.35 Winding of the Scanner Drive Cables

<Overall figure>



A. Reinstallation Procedure

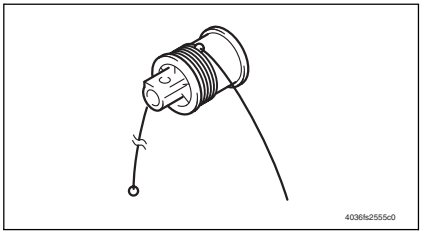


<Front>

1. Position the round bead [1] of the Scanner Drive Cable in the pulley [2] as shown.

NOTE

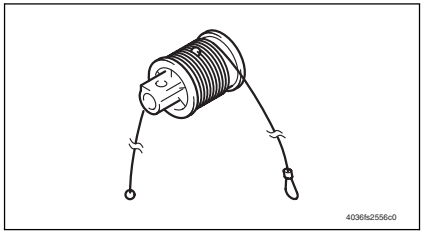
- **Make sure that the bead snugly rests in the slit in the pulley.**



2. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the rear toward the front side.

NOTE

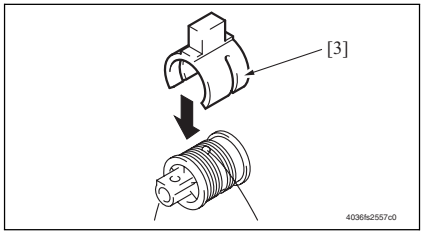
- **Make sure that no part of the cable rides on the other.**



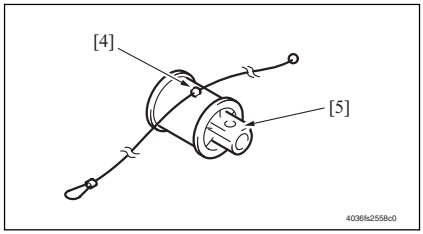
3. Wind the hook end of the cable around the pulley five turns counterclockwise, from the front toward the rear side.

NOTE

- **Make sure that no part of the cable rides on the other.**



4. Slip the Cable Holding Jig [3] onto the pulley to secure the cable in position.

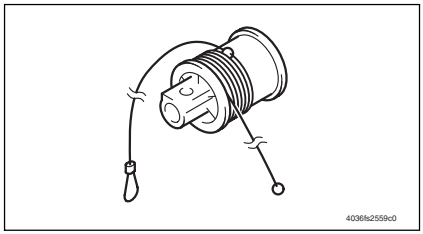


<Rear>

5. Position the round bead [4] of the Scanner Drive Cable in the pulley [5] as shown.

NOTE

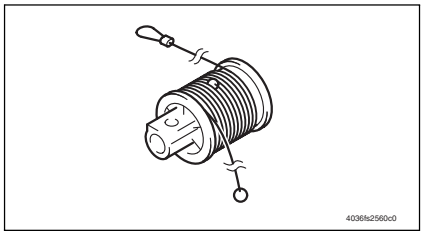
- **Make sure that the bead snugly rests in the slit in the pulley.**



6. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the front toward the rear side.

NOTE

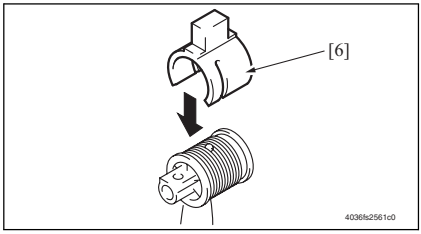
- **Make sure that no part of the cable rides on the other.**



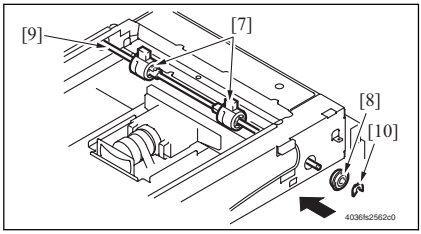
7. Wind the hook end of the cable around the pulley five turns counterclockwise, from the rear toward the front side.

NOTE

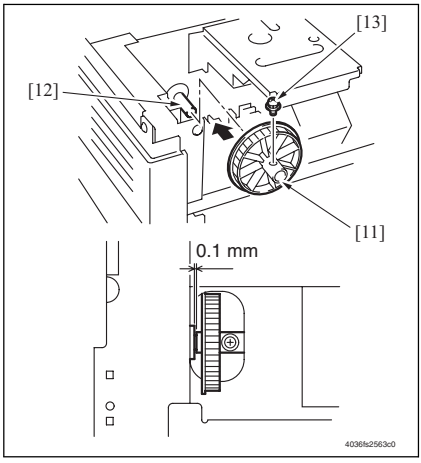
- **Make sure that no part of the cable rides on the other.**



8. Slip the Cable Holding Jig [6] onto the pulley to secure the cable in position.



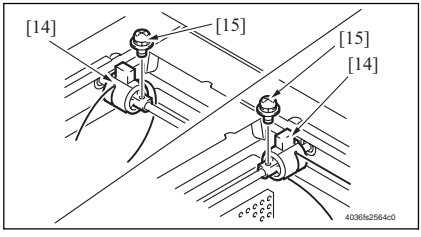
9. Install the front and rear pulleys [7] and bushings [8] onto the shaft [9] and fit the C-clip [10].



10. Mount the Scanner drive gear [11] on the shaft [12] and secure it using the screw [13].

NOTE

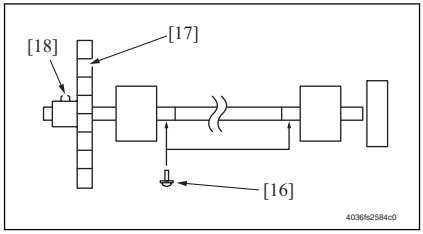
- **Allow a clearance of about 0.1 mm between the Scanner drive gear and bushing.**



11. Secure the front and rear pulleys [14] using the screw [15] each.

NOTE

- **Apply the Screw lock on the Screw.**

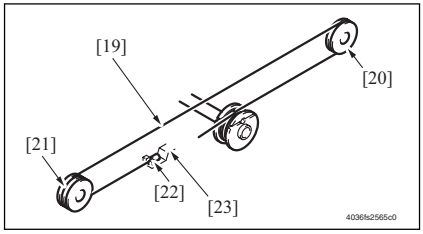


NOTE

- **Mount the Screw [16] in the direction that is opposite against the direction for which Scanner Drive Gear [17] and Screw [18] are screwed together as shown in the left figure.**

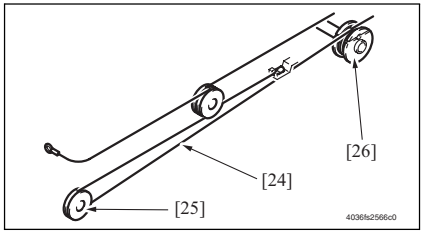
12. Mount the Scanner Motor Assy.

☞ 82

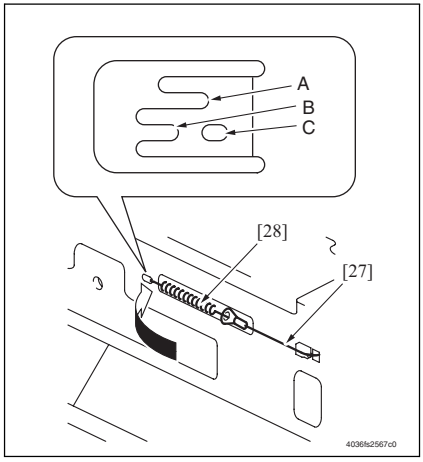


<Front>

13. Wind the bead end of the cable [19] around pulley C [20] and pulley B [21], then hook the bead [22] onto the Adjustable Anchor [23].



14. Wind the hook end of the cable [24] around pulley A [25] and pulley B [26].

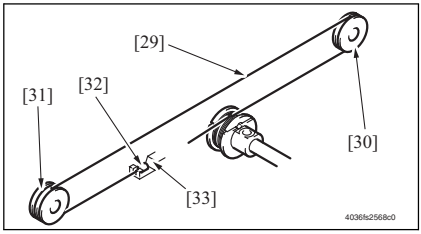


15. Fit the hook end of the cable [27] to the spring [28] and then hook the spring to the catch A in the frame.

16. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

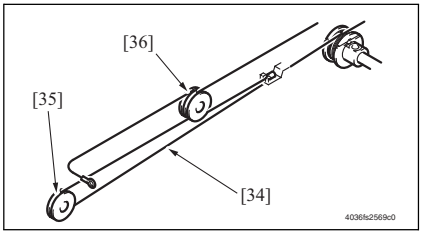
<When out of the given range>

- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.

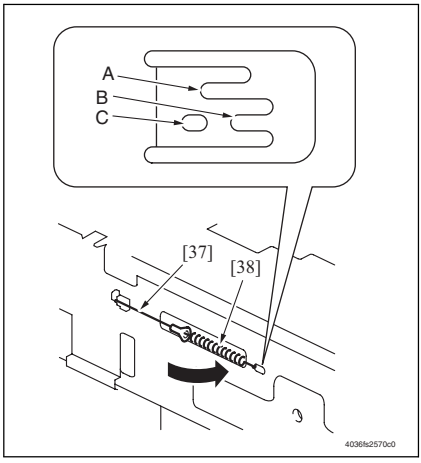


<Rear>

17. Wind the bead end of the cable [29] around pulley F [30] and pulley E [31], then hook the bead [32] onto the Adjustable Anchor [33].



18. Wind the hook end of the cable [34] around pulley D [35] and pulley E [36].



19. Fit the hook end of the cable [37] to the spring [38] and then hook the spring to the catch A in the frame.

20. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

<When out of the given range>

- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.

21. Remove the Cable Holding Jigs from the front and rear pulleys.

22. Adjust the focus positioning of the Scanner and Mirrors Unit.

☞ 301

23. Adjust the position of the Scanner and 2nd/3rd Mirrors Carriage.

☞ 301

NOTE

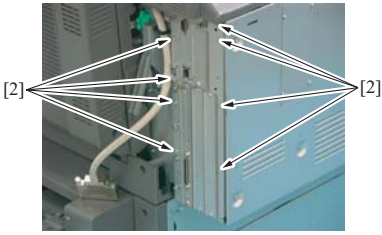
- **Whenever the Scanner Drive Cables have been removed, be sure to carry out the "Feed Direction Adjustment" procedure.**

☞ 233

6.3.36 PWB Unit

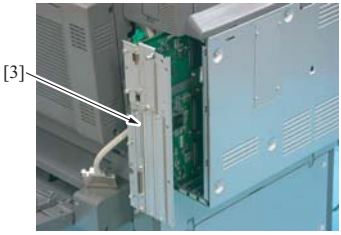
4037F2C040DA

1. Remove the Right Rear Cover.
☞ 52
2. Disconnect the connector [1].



4037F2C079DB

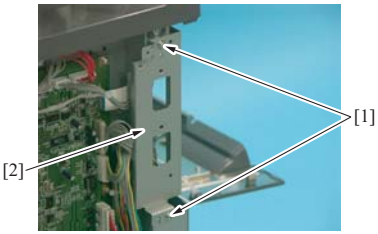
3. Remove eight screws [2].



4037F2C080DA

4. Remove the PWB Unit [3].

6.3.37 PWB Box



4037F2C067DA

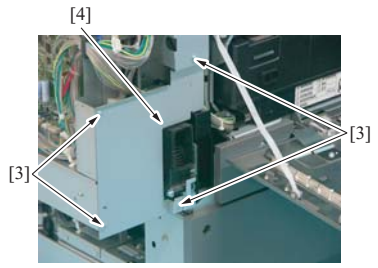
1. Remove the Ozone filter.

☞ 25

2. Remove the Rear Cover, Lower Rear Cover, Right Rear Cover, Left Rear Cover, and IR Left Cover.

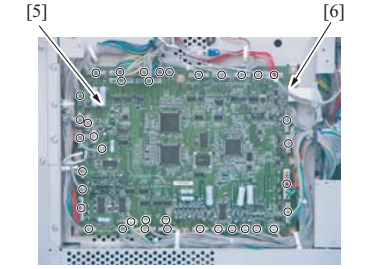
☞ 50

3. Remove two screws [1] and the lattice connector fixing bracket [2].



4037F2C068DA

4. Open the Left door.
5. Remove four screws [3] and the Harness Protective Cover [4].

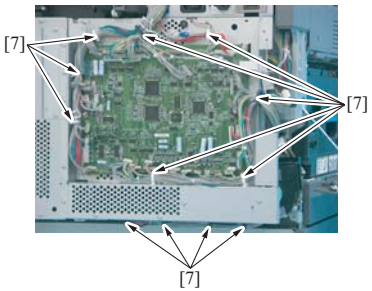


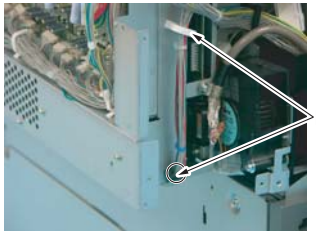
4037F2C081DB

6. Remove all the connectors on the Mechanical Control Board [5].

NOTE

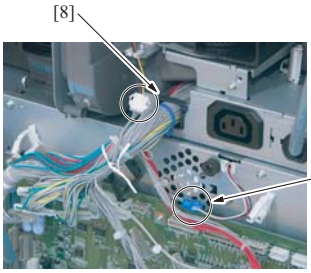
- **Do not remove the Flat cable [6].**





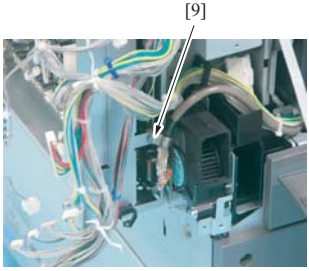
4037F2C082DB

7. Remove the Harness from fourteen wire saddles [7].



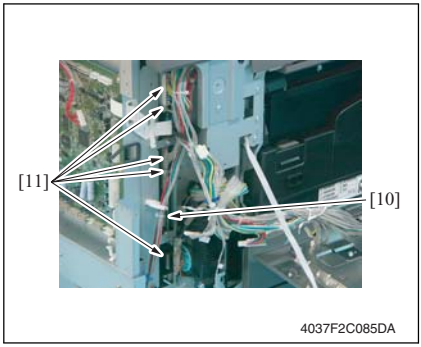
4037F2C083DB

8. Remove two connectors [8].

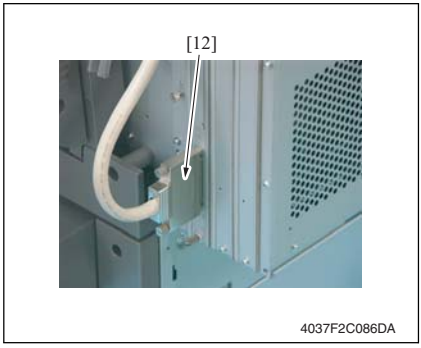


4037F2C084DA

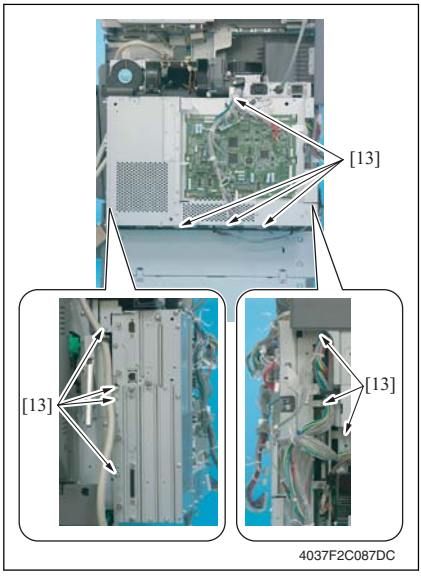
9. Remove the connector set screw [9].



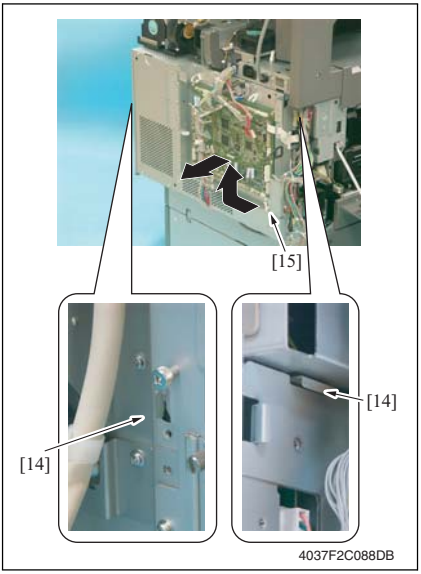
10. Remove six connectors [11] connected to the Slide Interface Board [10].



11. Remove the connector [12].

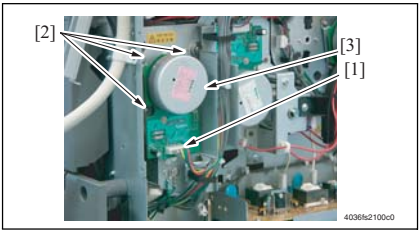


12. Remove eleven screws [13].



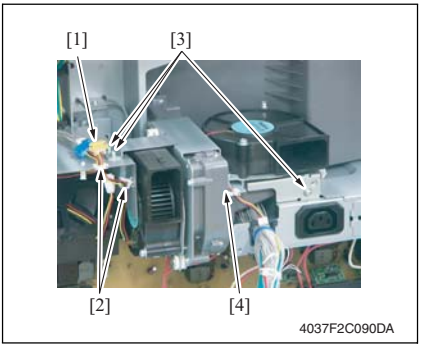
13. Remove two claws [14] and the Board Box [15].

6.3.38 Main Motor (M1)

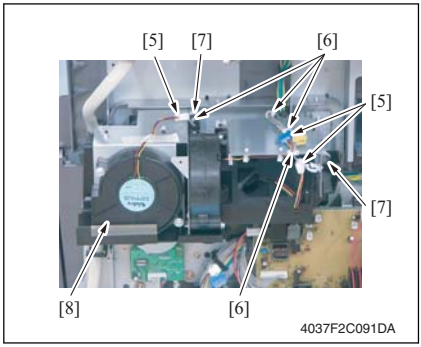


1. Remove the PWB Box.
☞ 93
2. Remove the Connector [1] and three Screws [2], and remove the Main Motor [3].

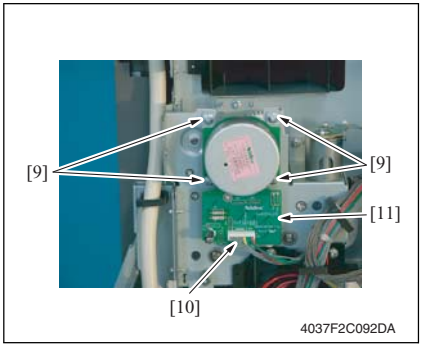
6.3.39 Fusing Drive Motor (M2)



1. Remove the PWB Box.
☞ 93
2. Remove two connectors [1], and remove the Harness from two wire saddles [2].
3. Remove three screws [3] and the Fan Motor Assy/1 [4].

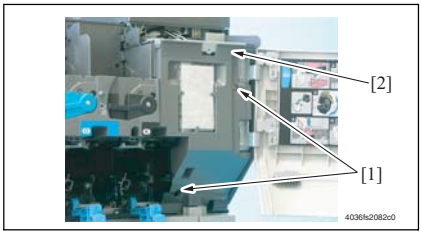


4. Remove two connectors [5], and remove the Harness from three wire saddles [6].
5. Remove two shoulder screws [7] and the Fan Motor Assy[8].



6. Remove four Screws [9] and Connector [10], and remove the Fusing Drive Motor [11].

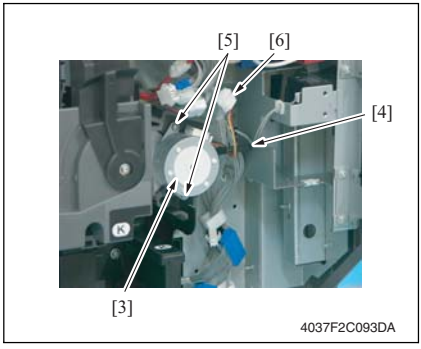
6.3.40 Toner Supply Motor C/K (M3)



1. Remove the Panel Cover.

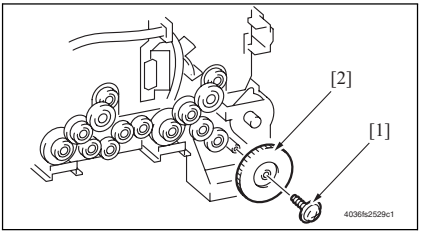
☞ 52

2. Remove two Screws [1], and remove the Front Right Cover [2].

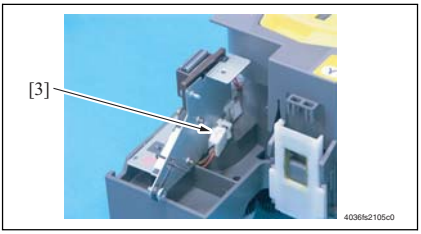


3. Remove the Harness for the Toner Supply Motor C/K [3] from the wire saddle [4].
4. Remove two Screws [5] and Connector [6], and remove the Toner Supply Motor C/K [3].

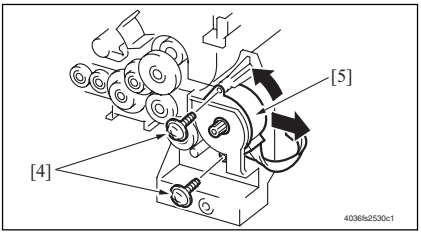
6.3.41 Toner Supply Motor Y/M (M4)



1. Remove the Toner Hopper.
☞ 77
2. Remove the screw [1] and the gear [2].

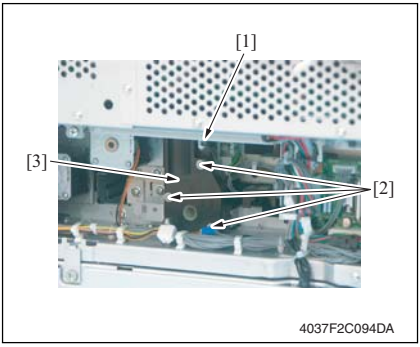


3. Remove the Connector [3].



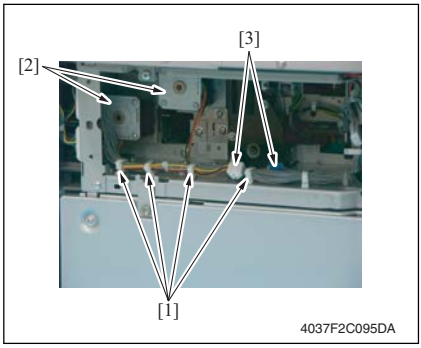
4. Remove two screws [4]. Then, turn the Toner Replenishing Motor Y/M [5] counterclockwise and take it off the machine.

6.3.42 Tray 2 Lift-Up Motor (M101)

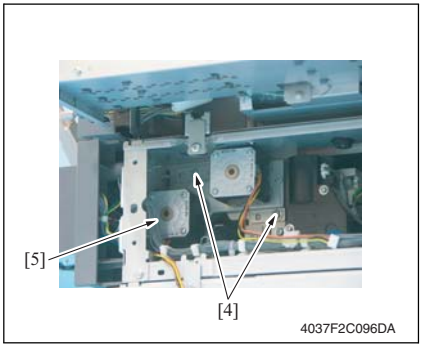


1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Cover.
☞ 52
3. Remove the connector [1].
4. Remove three screws [2] and the Tray 2 Lift-Up Motor [3].

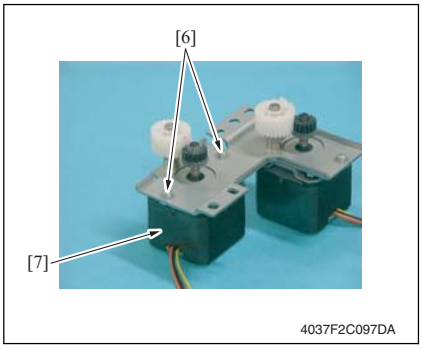
6.3.43 Tray 2 Paper Feed Motor (M102)



1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Cover.
☞ 52
3. Remove the Harness for the Motor Assy [2] from four wire saddles [1].
4. Remove two connectors [3].

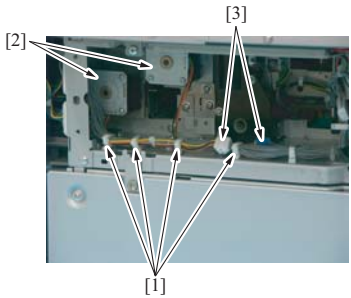


5. Remove two screws [4] and the Motor Assy [5].



6. Remove two screws [6], and remove Tray 2 Paper Feed Motor [7].

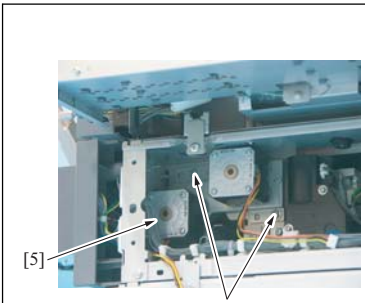
6.3.44 Tray 2 Vertical Transport Motor (M103)



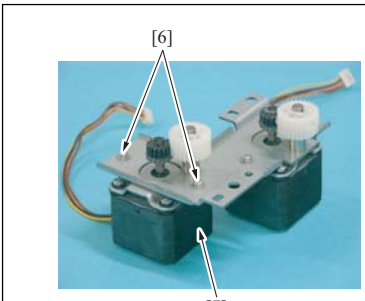
1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Cover.

☞ 52

3. Remove the Harness Assy [2] from four wire saddles [1].
4. Remove two connectors [3].

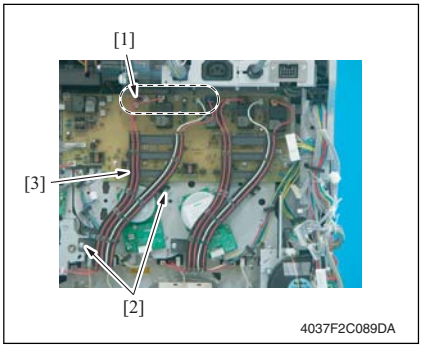


5. Remove two screws [4] and the Motor Assy [5].

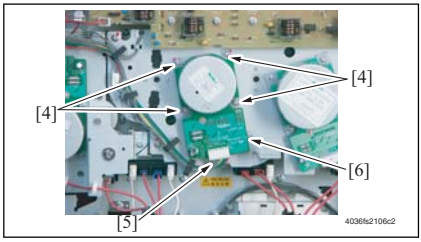


6. Remove two screws [6] and the Tray 2 Vertical Transport Motor [7].

6.3.45 Color PC Drum Motor (M5)



1. Remove the PWB Box.
☞ 93
2. Remove four Connectors [1] on the High Voltage Unit/1.
3. Remove two Screws [2], and remove the Harness Holder [3].

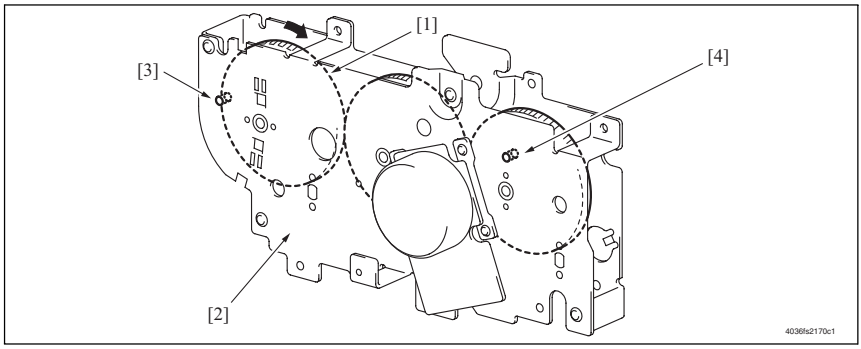


4. Remove four Screws (Red-painted) [4] and Connector [5], and remove the Color PC Drum Motor [6].

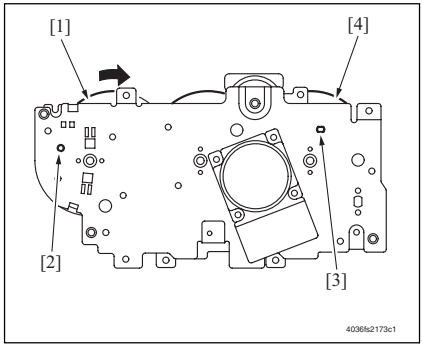
Cautions when mounting the Color PC Drum Motor:

- **Before mounting the Color PC Drum Motor, be sure to check the assembled position of PC Gear. If its position is improper, make positioning adjustment.**

A. Checking method

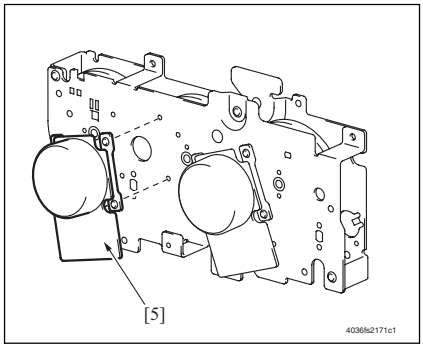


1. Slowly turn the PC Gear/1 [1], and fit the hole A [3] and B [4] with the Gear holes as shown on the above figure.
2. Visually check if the hole A [3] and B [4] are fit with each Gear hole at the same time.



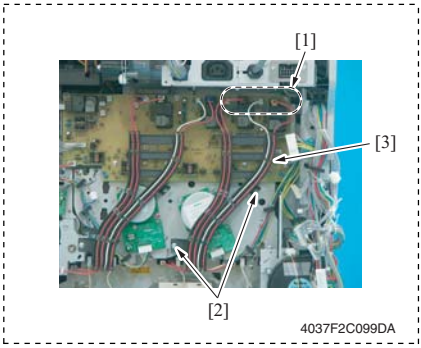
B. Adjusting method

1. Remove seven Screws and Upper Frame Assy.
2. Turn the PC Gear/1 [1], and fit the hole A [2] with the PC Gear/1 [1] hole while visually checking.
3. Fix the PC Gear/1 [1], and then fit the hole B [3] with the PC Gear/2 [4] hole while visually checking.

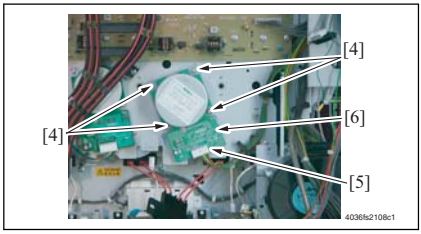


4. Mount the Color PC Drum Motor [5] while two hole positions are well set.
5. Reinstall the Upper Frame Assy.

6.3.46 Color Developing Motor (M6)



1. Remove the PWB Box.
☞ 93
2. Remove eight Connectors [1] on the High Voltage Unit/1.
3. Remove two Screws [2], and remove the Harness Holder [3].

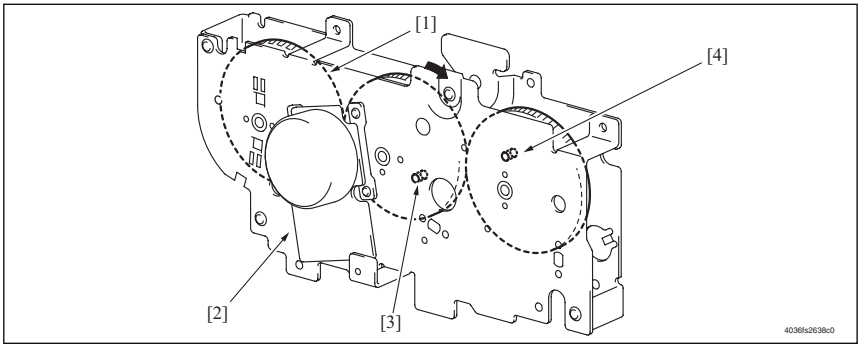


4. Remove four Screws [4] and Connector [5], and remove the Color Developing Motor [6].

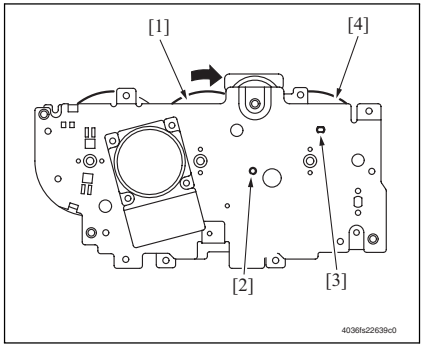
Cautions when mounting the Color Developing Motor:

- **Before mounting the Color Developing Motor, be sure to check the assembled position of PC Gear. If its position is improper, make positioning adjustment.**

A. Checking method

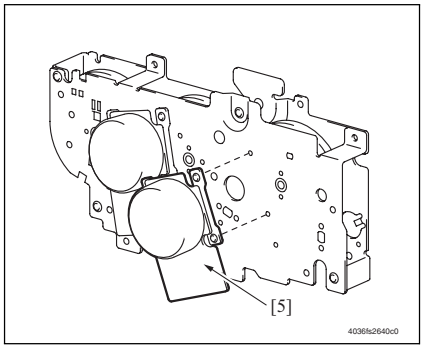


1. Slowly turn the PC Gear/1 [1], and fit the hole A [3] and B [4] with the Gear holes as shown on the above figure.
2. Visually check if the hole A [3] and B [4] are fit with each Gear hole at the same time.



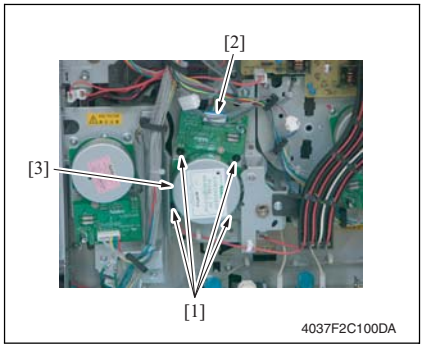
B. Adjusting method

1. Remove seven Screws and the Upper Frame Assy.
2. Turn the PC Gear/3 [1], and fit the hole C [2] with the PC Gear/3 [1] hole while visually checking.
3. Fix the PC Gear/3 [1], and then fit the hole B [3] with the PC Gear/2 [4] hole while visually checking.



4. Mount the Color Developing Motor [5] while two hole positions are well set.
5. Reinstall the Upper Frame Assy.

6.3.47 K PC Motor (M7)

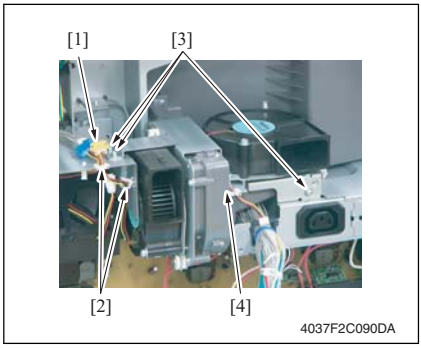


1. Remove the PWB Box.

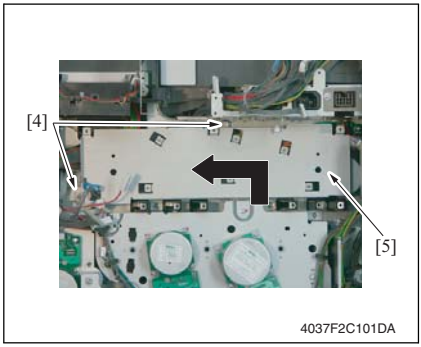
☞ 93

2. Remove four Screws [1] and Connector [2], and remove the K PC Motor [3].

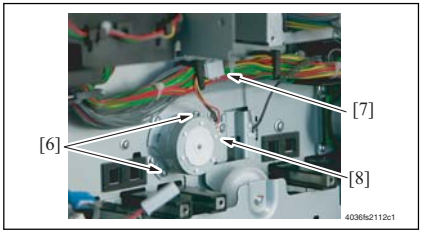
6.3.48 1st Image Transfer Pressure/Retraction Motor (M11)



1. Remove the PWB Box.
☞ 93
2. Remove two connectors [1], and remove the Harness from two wire saddles [2].
3. Remove three screws [3] and the Fan Motor Assy/1 [4].

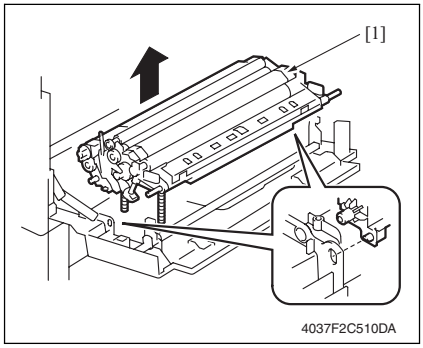


4. Remove the High Voltage Unit/1.
☞ 69
5. Remove two Screws [4], and remove the High Voltage Unit/1 Fixing plate [5].

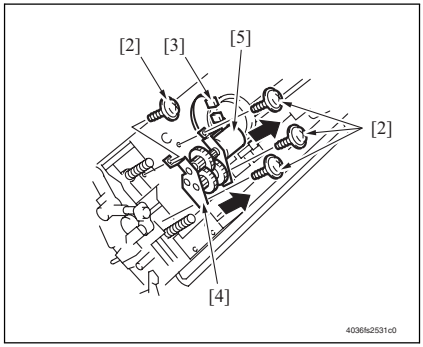


6. Remove two Screws [6] and Connector [7], and remove the 1st Image Transfer Pressure/Retraction Motor [8].

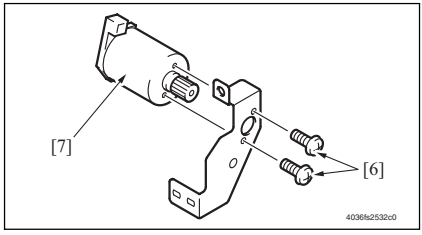
6.3.49 2nd Image Transfer Pressure/Retraction Motor (M13)



1. Open the Right Door.
2. Unlock the tab and remove the Transport Unit Assy [1].

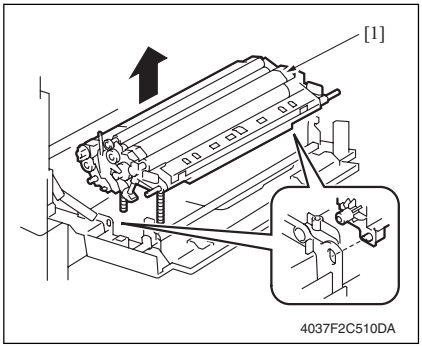


3. Remove four screws [2], unplug the connector [3], and remove the gear Assy [4] and motor Assy [5].

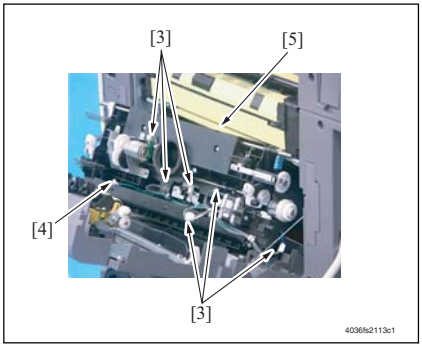


4. Remove two screws [6] and the 2nd Image Transfer Pressure/Retraction Motor [7].

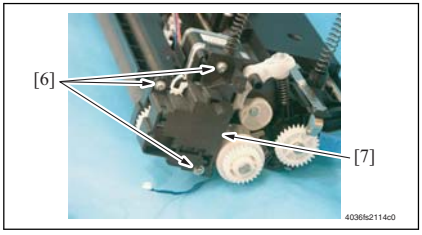
6.3.50 Intermediate Transport Motor (M14)



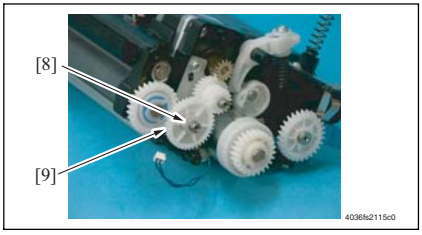
1. Open the Right Door.
2. Remove the Lock claw to make free conditions of Transport section Assy [1].



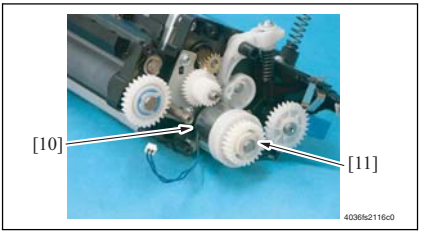
3. Remove six Connectors [3] and Earth [4], and remove the Transport section Assy [5].



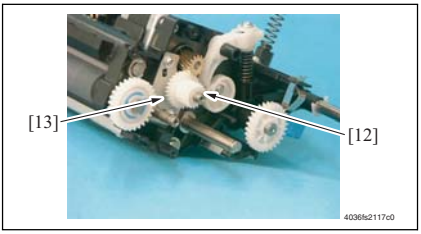
4. Remove three Screws [6], and remove the Holder [7].



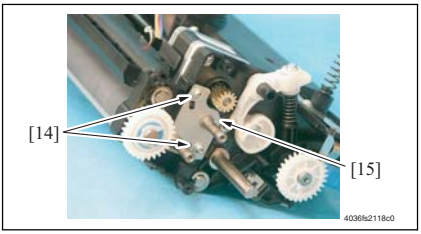
5. Remove the C-ring [8], and remove the Gear 1 [9].



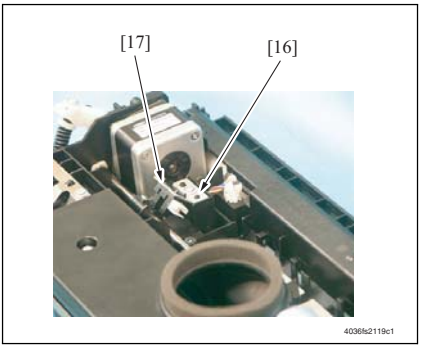
6. Remove the C-ring [10], and remove the Gear 2 [11].



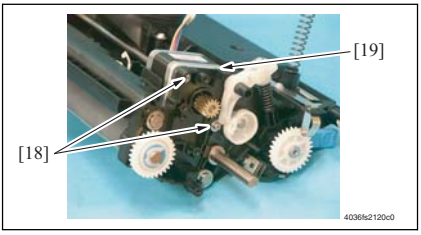
7. Remove the C-ring [12], and remove the Gear 3 [13].



8. Remove two Screws [14], and remove the Mounting plate [15].



9. Remove the Screw [16], and remove the Sensor Assy [17].

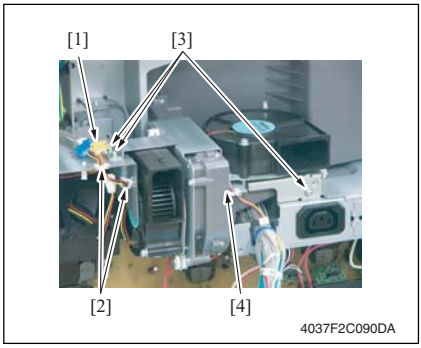


10. Remove two Screws [18], and remove the Intermediate Transport Motor [19].

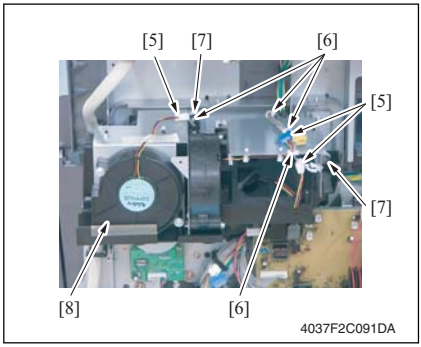
NOTE

- **Remove the Intermediate Transport Motor while its Harness is well fit with the groove.**
- **Use care on the harness not to be bitten.**

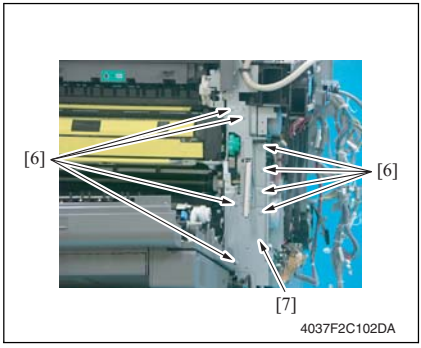
6.3.51 Fusing Pressure Roller Pressure/Retraction Motor (M19)



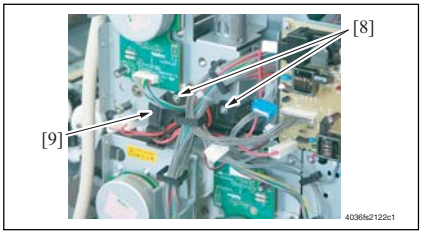
1. Remove the PWB Box.
☞ 93
2. Remove two connectors [1], and remove the Harness from two wire saddles [2].
3. Remove three screws [3] and the Fan Motor Assy/1 [4].



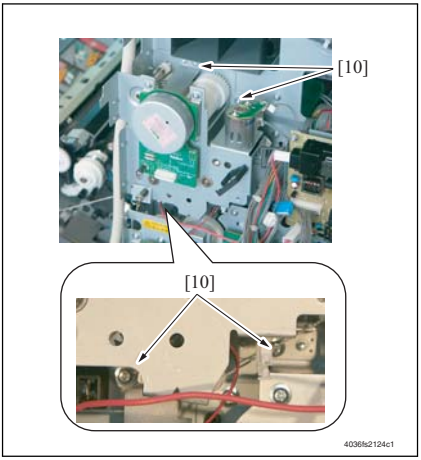
4. Remove two connectors [5], and remove the Harness from three wire saddles [6].
5. Remove two shoulder screws [7] and the Fan Motor Assy/2 [8].



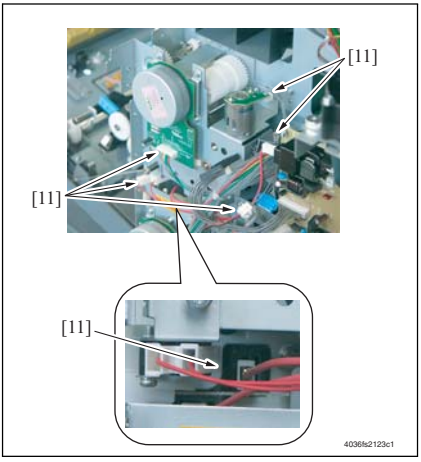
6. Open the Right Door.
7. Remove the Fusing Unit.
☞ 34
8. Remove the Wiring Cover.
☞ See the procedure 2 of page 19 “Replacing of Tray 2 Paper Take-up Roller”.
9. Remove eight Screws [6], and remove the Rear Handle Assy [7].



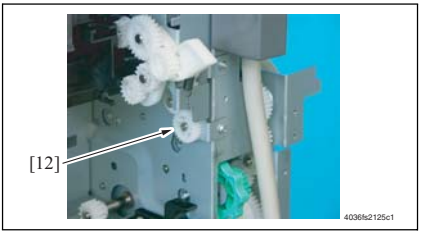
10. Remove two Screws [8], and remove the Harness Guide [9].



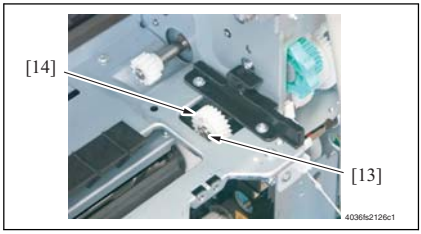
11. Remove four Screws [10].



12. Remove six Connectors [11].



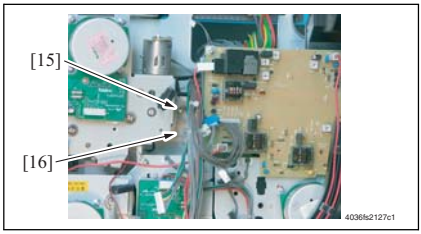
13. Remove the Gear [12].



14. Remove the E-ring [13], and remove the Gear [14].

NOTE

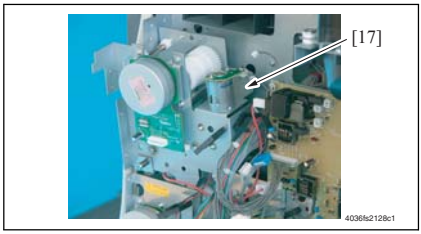
- **Use care not to miss the Shaft.**



15. Remove the Screw [15], and remove the Wire Rail [16].

NOTE

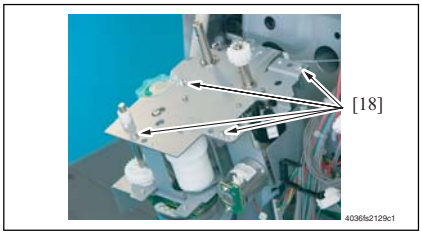
- **Close the Right Door when removing to prevent the wire from damaging.**



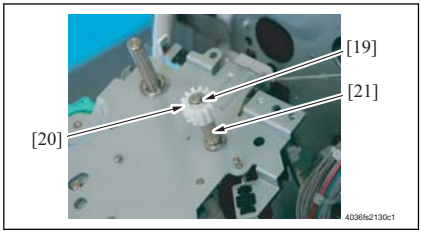
16. Remove the Fusing Drive Gear Assy [17].

NOTE

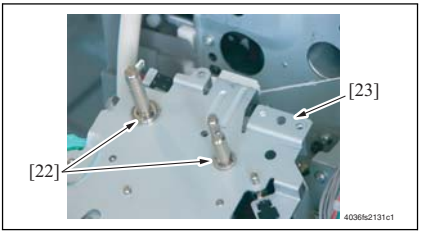
- **Use care not to hurt the Right Door wire and Harness around.**



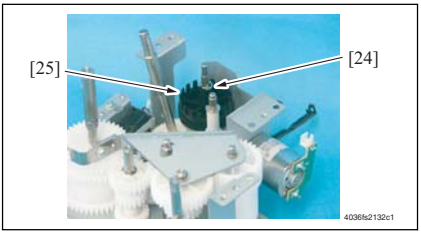
17. Remove four Screws [18].



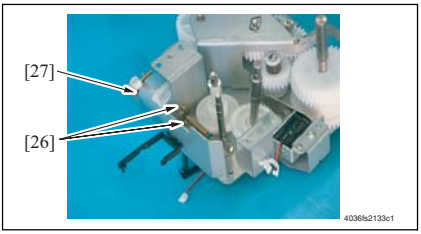
18. Remove the E-ring [19] and Shaft [20], and remove the Gear [21].



19. Remove two E-rings [22], and remove the Cover [23].

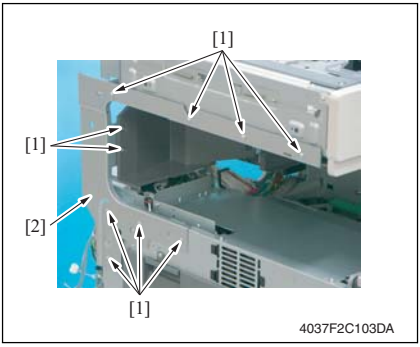


20. Remove the E-ring [24], and remove the Gear [25].



21. Remove the two Screws [26], and remove the Fusing Pressure Roller Pressure/Retraction Motor [27].

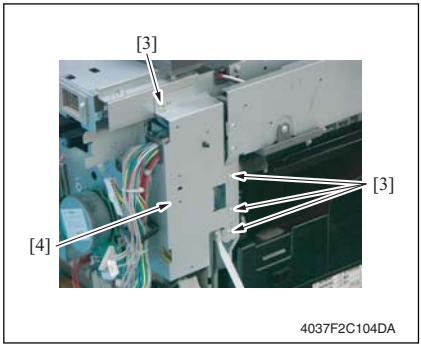
6.3.52 Cleaning Brush Motor (M22)



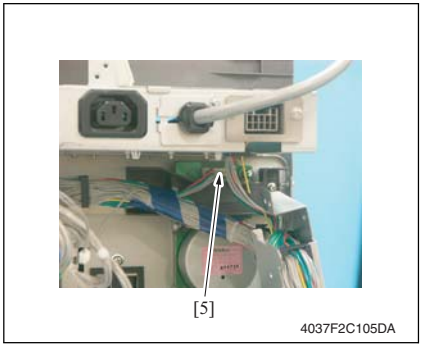
1. Remove the High Voltage Unit/1 mounting plate.

☞ See the procedures 1 to 4 of page 105 “1st Image Transfer Pressure/ Retraction Motor”.

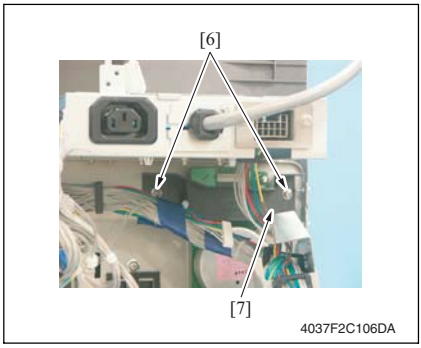
2. Remove ten screws [1], and remove the IR Left Frame [2].



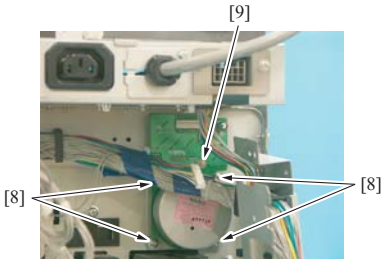
3. Remove four screws [3] and the wiring guide plate [4].



4. Remove the connector [5].

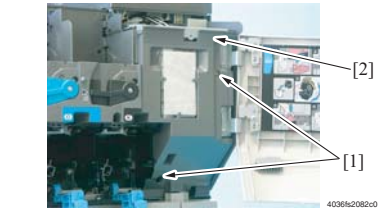


5. Remove two Screws [6], and remove the Harness Holder [7].



6. Remove four Screws [8], and remove the Cleaning Brush Motor [9].

6.3.53 IDC/Registration Sensor/1,2 (PC8/PC9)



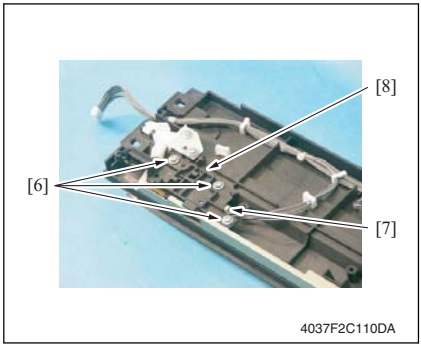
1. Open the Front Door.
2. Remove the Panel Cover.

☞ 52

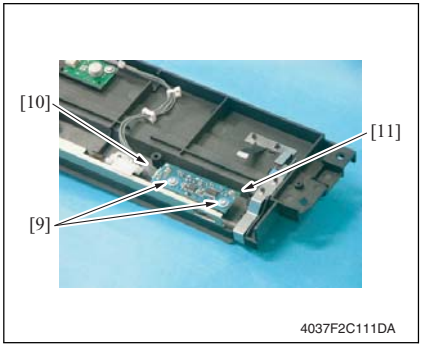
3. Remove two Screws [1], and remove the Front Right Cover [2].

4. Remove the Connector [3].

5. Open the Right Door.
6. Remove four screws [4] and the Registration Roller entrance guide [5].



7. Remove three Screws [6] and Connector [7], and remove the IDC/Registration Sensor/1 [8].

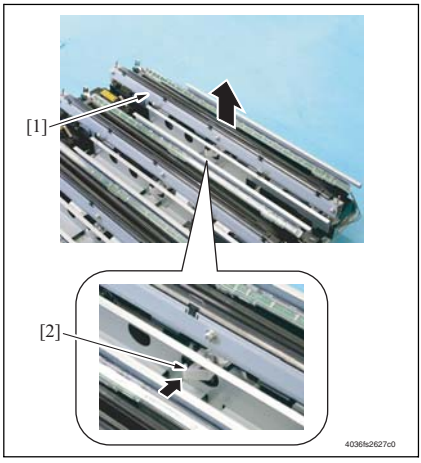


8. Remove two Screws [9] and Connector [10], and remove the IDC/Registration Sensor/2 [11].

NOTE

- **Whenever the IDC/Registration Sensor/1,2 have been replaced, be sure to replace the Image Transfer Belt Unit.**

6.3.54 LPH



A. Removal Procedure

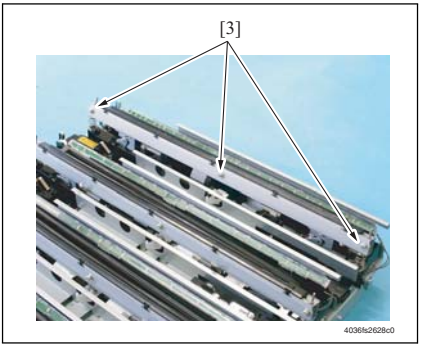
1. Remove the LPH Unit.

☞ 79

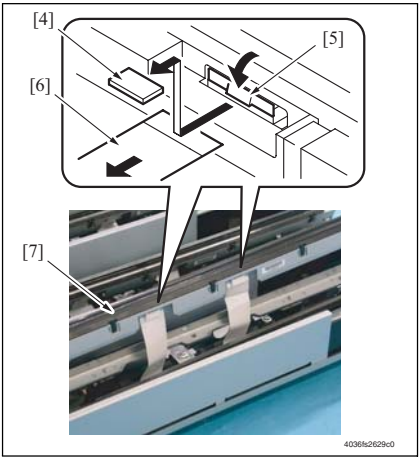
2. Holding the LPH Assy [1] with hands, unlock [2] it.

NOTE

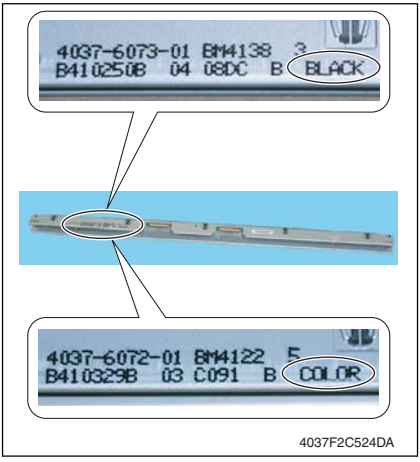
- **Do not touch the LED by hand. Clean the LED, if touched by hand, using the LED cleaning jig.**
- **Be careful about the spring that can spring off when the LPH Assy is unlocked.**
- **If the LPH Assy comes off position when the Lock is unlocked, the LPH Assy must be installed using the LPH Assy mounting jig.**



3. Remove the three LPH mounting screws [3].



4. Peel off the seal [4], unlock [5] the LPH Assy, and remove the flat cable [6].
5. Remove the LPH [7].
6. Perform the same procedure for each of different colors of LPH.

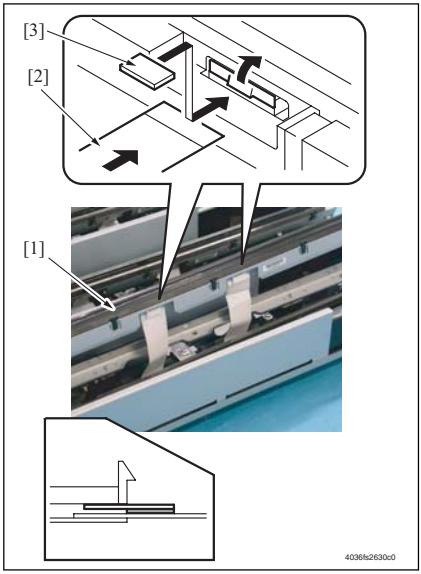


B. Reinstallation Procedure

NOTE

- **The LPH comes in two types, one for black and the other for color (common to Y, M, and C). At replacement, make sure of the type of the LPH, whether it is for black or color.**

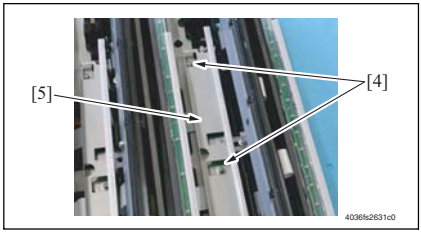
  <Check method>
  Determine the type of LPH using the marking on the side face of the LPH.
  The markings are:
  LPH for black: BLACK
  LPH for color: COLOR



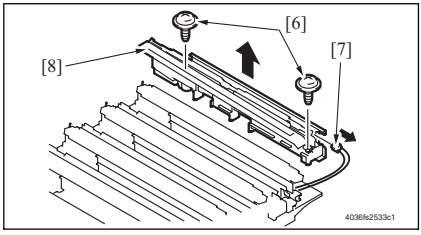
1. Insert the flat cable [2] into the LPH [1] and lock the LPH [1].
2. Affix the seal [3] that comes with the LPH Assy to the location shown on the left.

NOTE

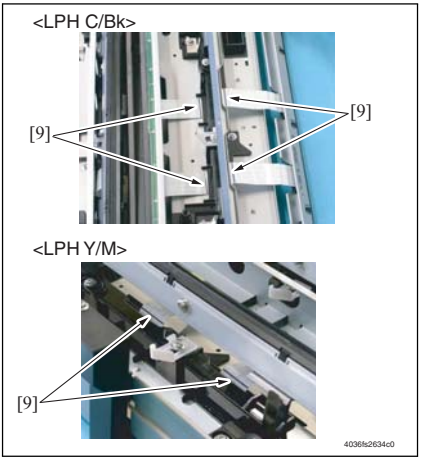
- **Failure to affix the seal could cause the flat cable to come off the LPH Assy.**



3. Remove two screws [4] and the Guide [5].



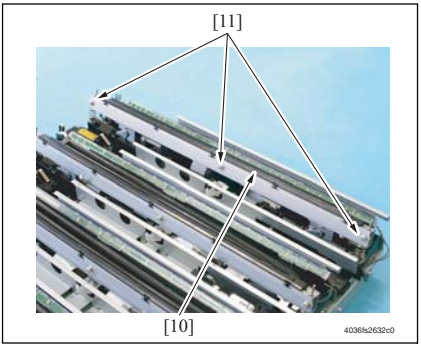
4. Remove two Screws [6] and Connector [7], and remove the guide Assy [8].



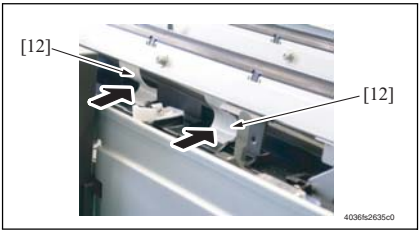
5. Align the markings [9] on the flat cable with the positions shown in the photo.
6. Install the Guide.

NOTE

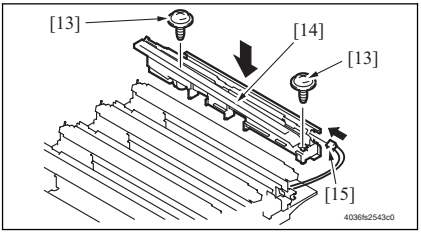
- **Make sure that no part of the flat cable is wedged in mechanisms or bent.**



7. Secure the LPH [10] using three screws [11].



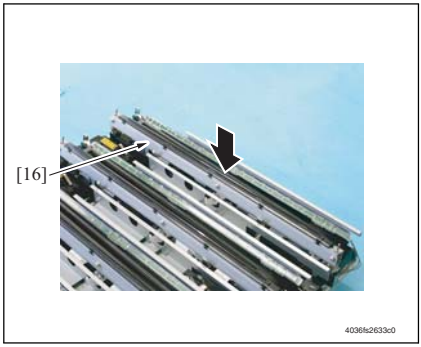
8. Push the slack portion in the flat cable [12] into the inside of the machine.



9. Install the two screws [13] to secure the guide Assy [14].
10. Connect the connector [15].

NOTE

- **Make sure that no part of the flat cable is wedged in mechanisms or bent.**
- **Make sure that the flat cable is aligned with the groove in the Guide Assy.**

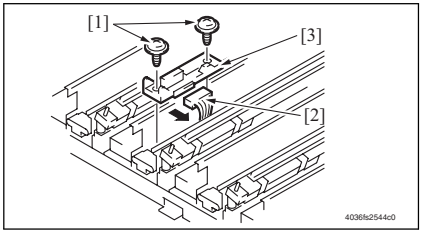


11. Press the LPH Assy [16] down into the locked position.

NOTE

- **Select "Service Mode" → "Machine" → "LPH Rank" and change the value of "LPH Rank" to "1".**
- **When the LPH Unit has been reinstalled, be sure to run "Stabilizer" available from "Image Process Adjustment" of the Service Mode.**

6.3.55 TCR Sensor Y/M/C (PWB-N1/-N2/-N3)



1. Remove the LPH Unit.

☞ 79

2. Remove two screws [1], unplug the connector [2], and remove the TCR Sensor.

NOTE

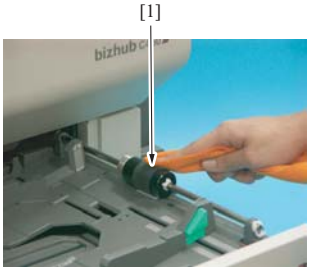
- **When the TCR Sensor has been reinstalled, be sure to run "Stabilizer" available from "Image Process Adjustment" of the Service Mode.**

6.4 Cleaning procedure

NOTE

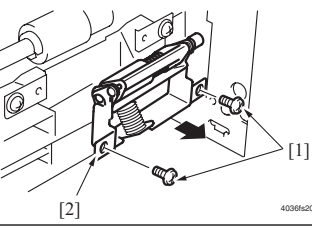
- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

6.4.1 Tray 1 Paper Take-up Roller

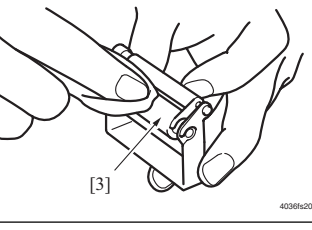


1. Slide out the Tray 1.
2. Using a soft cloth dampened with alcohol, wipe the Tray 1 Paper Take-Up Roller [1] clean of dirt.

6.4.2 Tray 1 Separation Roller

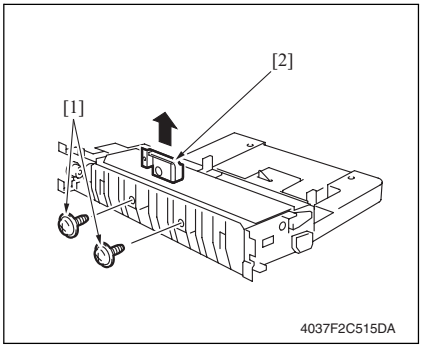


1. Slide out the Tray 1.
2. Remove two screws [1] and the Tray 1 Paper Separation Roller mounting bracket Assy [2].

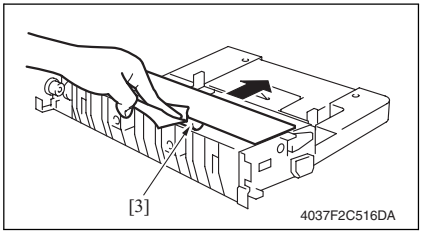


3. Using a soft cloth dampened with alcohol, wipe the Tray 1 Separation Roller [3] clean of dirt.

6.4.3 Bypass Tray Paper Take-up Roller

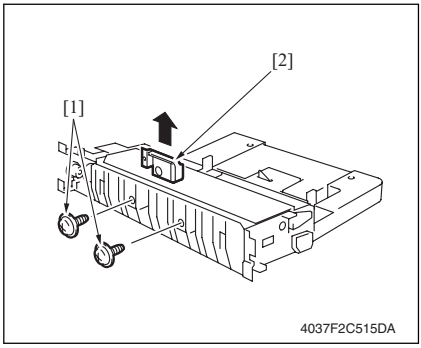


1. Remove the Multi Bypass Unit.
☞ 76
2. Remove two screws [1], and remove the Bypass Paper Separation Roller fixing bracket Assy [2].

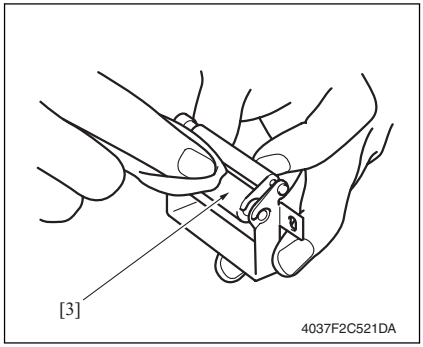


3. Using a soft cloth dampened with alcohol, wipe the Bypass Paper Take-up Roller [3].

6.4.4 Bypass Tray Separation Roller



1. Remove the Multi Bypass Unit.
☞ 76
2. Remove two screws [1], and remove the Bypass Paper Separation Roller fixing bracket Assy [2].



3. Using the soft cloth dampened with alcohol, wipe the Bypass Paper Separation Roller [3].

6.4.5 Tray 2 Paper Take-up Roller

1. Remove the Tray 2 Separation Roller installation plate Assy.

☞ See the procedures 1 to 7 in page 122 “Cleaning of Tray 2 Separation Roller.”

2. Using a soft cloth dampened with alcohol, wipe the Tray 2 Paper Take-up Roller [1].

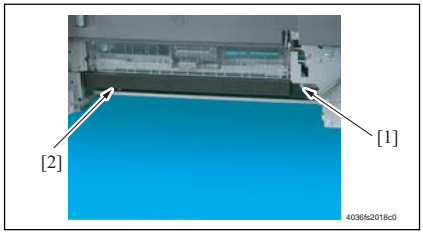
6.4.6 Tray 2 Pick-up Roller

1. Remove the Tray 2 Separation Roller installation plate Assy.

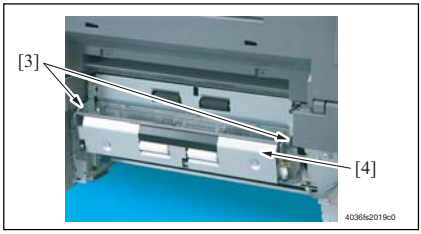
☞ See the procedures 1 to 7 in page 122 “Cleaning of Tray 2 Separation Roller.”

2. Using a soft cloth dampened with alcohol, wipe the Tray 2 Pick-up Roller [1].

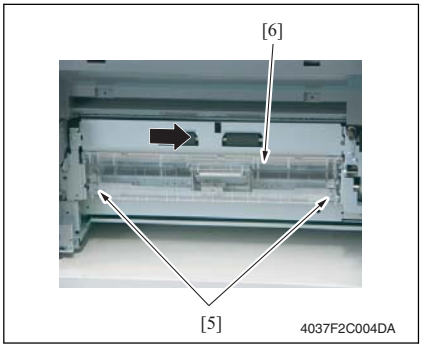
6.4.7 Tray 2 Separation Roller



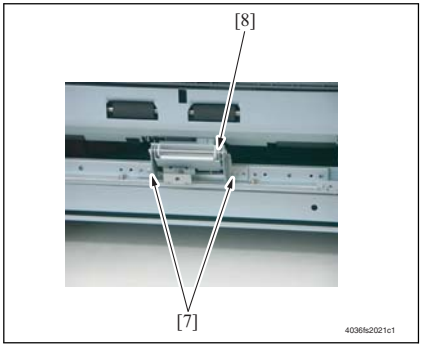
1. Slide out the Tray 2.
2. Remove the Multi Bypass unit.
3. Remove the Screw [1], and the Reinforcement plate [2].



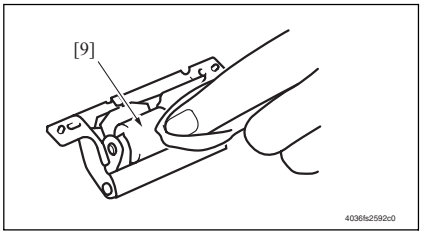
4. Open the Vertical transport door.
5. Remove two Claws [3] and the Vertical transport door [4].



6. Remove two Screws [5], and remove the Jam processing cover [6].



7. Remove two Screws [7] and the Tray 2 Separation Roller installation plate Assy [8].

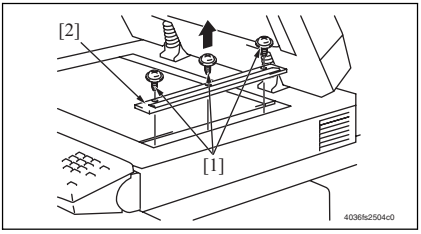


8. Using a soft cloth dampened with alcohol, wipe the Tray 2 Separation Roller [9].

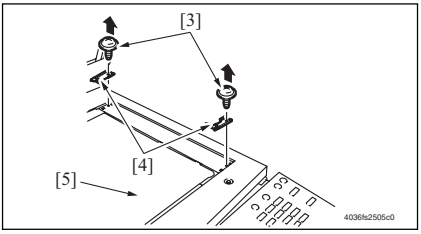
6.4.8 Tray 2 Transport Roller

1. Open the Vertical transport door.
2. Using a soft cloth dampened with alcohol, wipe the Tray 2 Transport Roller [1].

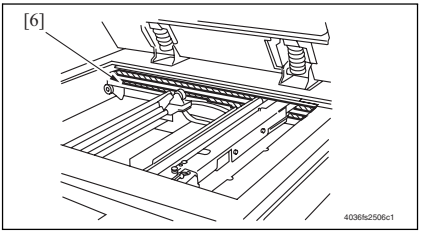
6.4.9 Scanner Rail



1. Remove three screws [1] and the IR Upper Right Cover [2].



2. Remove two screws [3] and two Original Glass fixing brackets [4] (at the front and rear).
3. Remove the Original Glass [5].

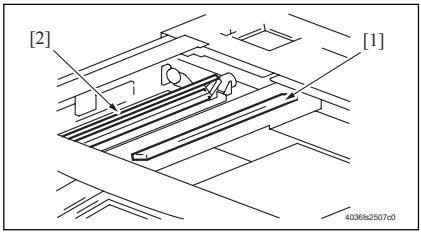


4. Using a soft cloth dampened with alcohol, wipe the Scanner Rails [6] clean of dirt.

NOTE

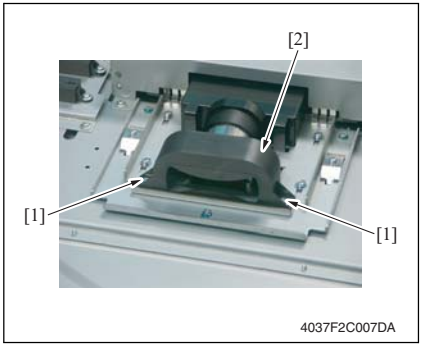
- **Apply lubricant after cleaning.**

6.4.10 Mirrors (1st/2nd/3rd)

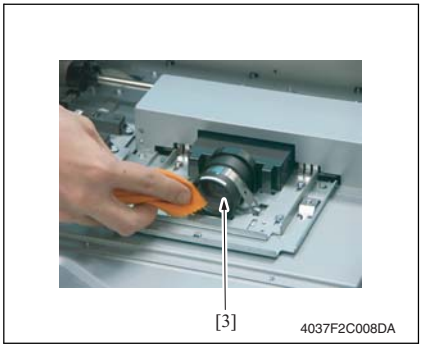


1. Remove the Original Glass.
☞ 54
2. Using a soft cloth dampened with alcohol, wipe the Mirror 1 [1] and Mirror 2/3 [2].

6.4.11 Lens

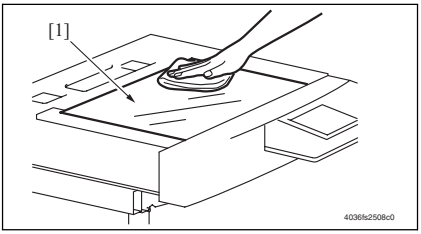


1. Remove the Original Glass.
☞ 54
2. Remove two Screws [1] and Lens cover [2].



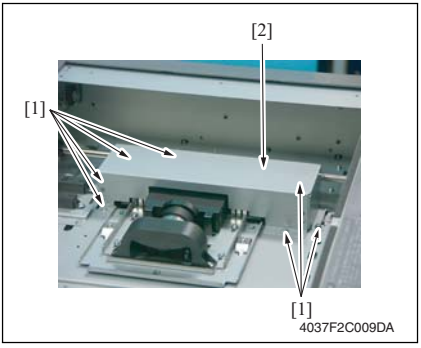
3. Using a soft cloth dampened with alcohol, wipe the Lens [3] clean of dirt.

6.4.12 Original Glass



1. Using a soft cloth dampened with alcohol, wipe the Original Glass [1] clean of dirt.

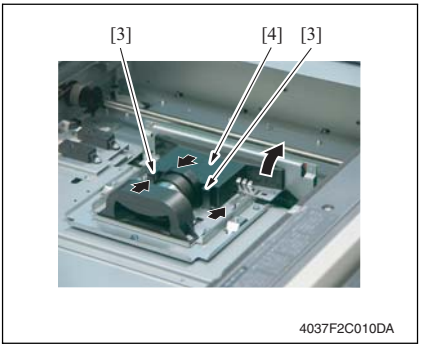
6.4.13 CCD Sensor



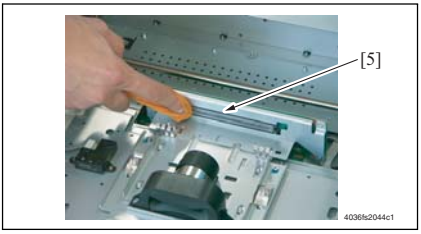
1. Remove the Original Glass.

☞ 54

2. Remove seven Screws [1] and CCD Unit protective cover [2].

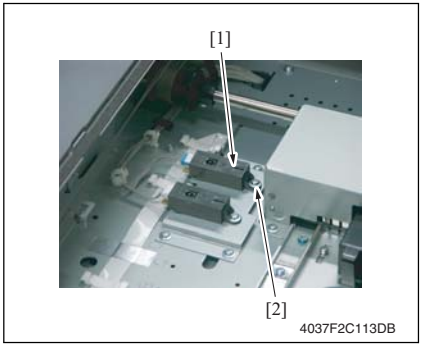


3. Remove two hooks [3] and the lens cover [4].



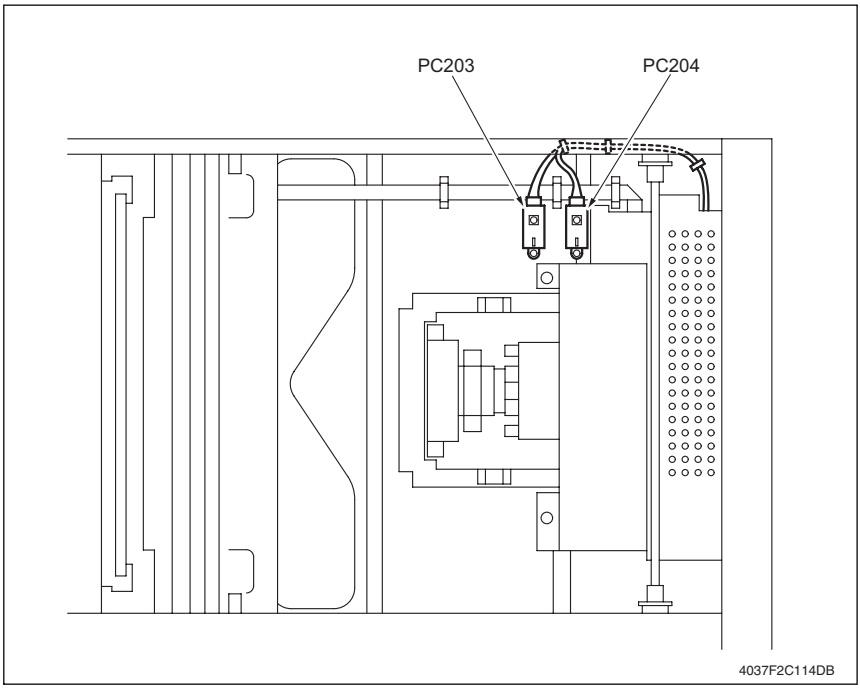
4. Using a soft lint free cloth dampened with alcohol, wipe the CCD Sensor [5] clean of dirt.

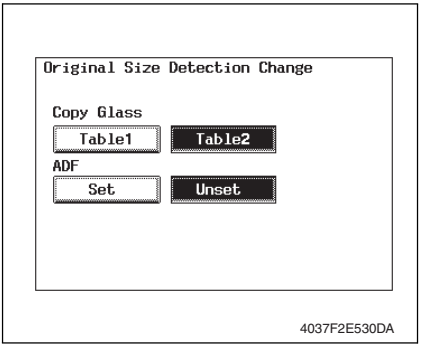
6.5 Mount the original size detecting sensor FD2 (PC204)



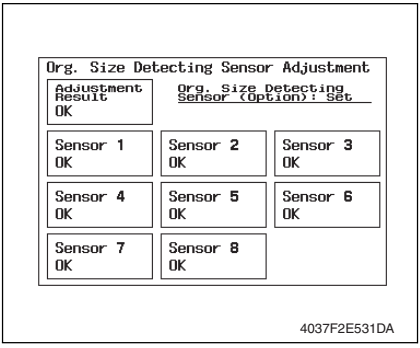
1. Remove the Original glass.
2. Using the screw [2], mount the Original Size Detection Sensor FD2 (PC204) [1] and fix it.

<How to set the Harness>





3. Select Service Mode -> System 1 -> Original Size Detection, and set the Original Glass to “Table2.”



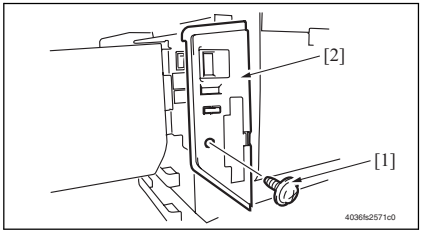
4. Select “Service Mode” → “Machine” → “Org. Size Detecting Sensor Adj.”

☞ 225

5. Check to make sure that the “Org. Size Detecting Sensor (Option): Set” is displayed on the Original Size Detection Sensor Adjustment screen.

6.6 Option counter

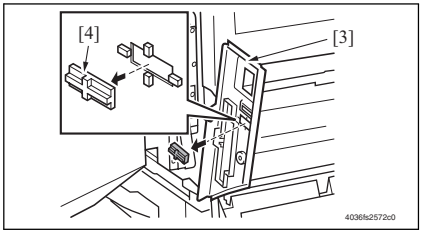
6.6.1 Installation of The Counter/K



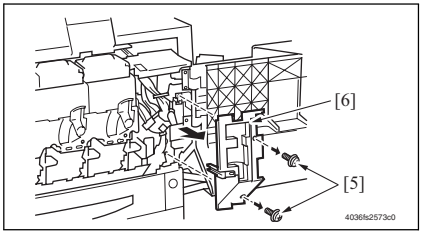
1. Open the Front Door.
2. Remove the Panel Cover.

☞ 52

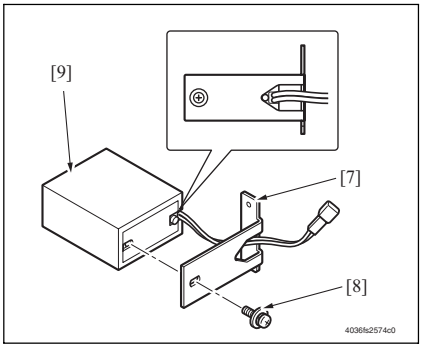
3. Remove the Screw [1], and remove the Front Right Cover [2].



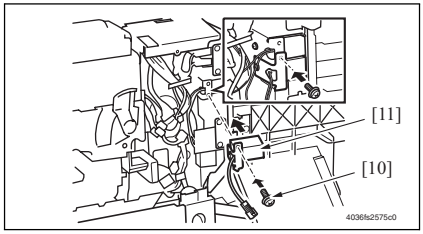
4. Cut out the knockout [4] in the Front Right Cover [3].



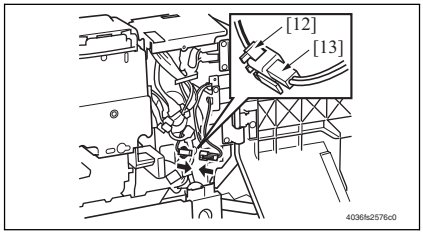
5. Remove two screws [5] and the Right Front Cover [6].



6. Install the Mounting plate [7] on the Counter/K [9] with the Screw [8].

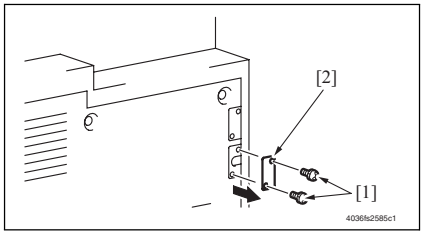


7. Secure the Counter/K [11] with the screw [10].

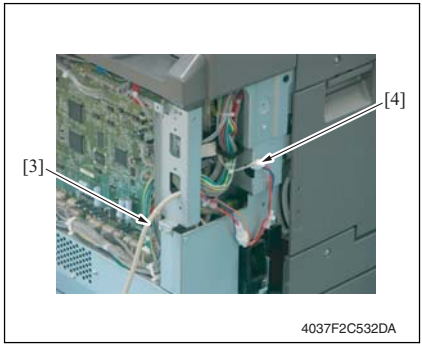


8. Mount the Connector [12] of Counter/K on the Relay Connector [13] at main body side.

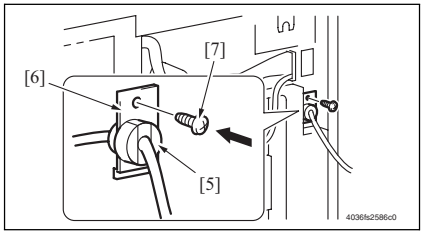
6.6.2 Installation method for the Key Counter



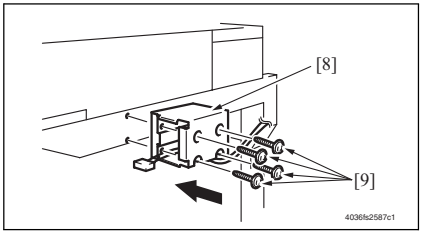
1. Remove two Screws [1], and remove the Cover [2].
2. Remove the Lower Rear Cover.
☞ 52



3. Pass the Key Counter Harness [3] through the hole.
4. Mount the Connector [4].



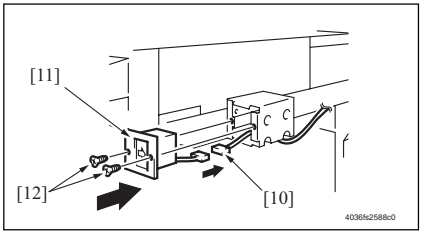
5. Secure the counter cable [5] and cable holder [6] with one screw [7].
6. Reinstall the Rear Cover.



7. Using four screws [9], secure the Counter Mounting Bracket [8].

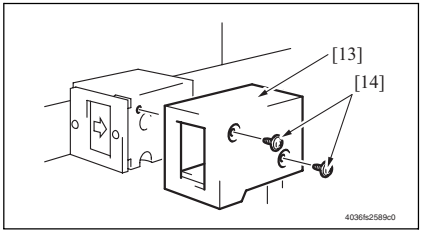
NOTE

- **Secure the Counter Mounting Bracket passing the connector into the bracket.**
- **Use the four long screws (9646-0418-14: M4x18) in the Key Counter Kit to secure the Counter Mounting Bracket.**
  When installing the Key Counter to the other products, use the short screws (9646-0408-14: M4x8).

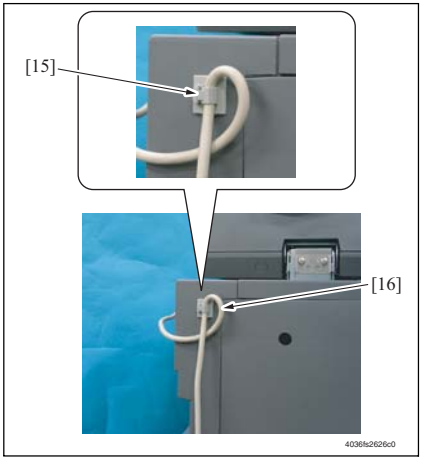


8. Connect the Key Counter Socket connector [10].

9. Using two screws [12], secure the counter socket [11].



10. Using two screws [14], secure the Key Counter Cover [13].



11. Fix the harness [16] with the cable clamp [15] as shown in the left figure.

12. Select Service Mode → “Billing Setting” → “Management Function Choice” → “Key Counter.” Press “Set”, and set Color Mode and Message.

☞ For details on setting, see “Adjustment/Setting.”

Blank Page

Adjustment/Setting

7. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

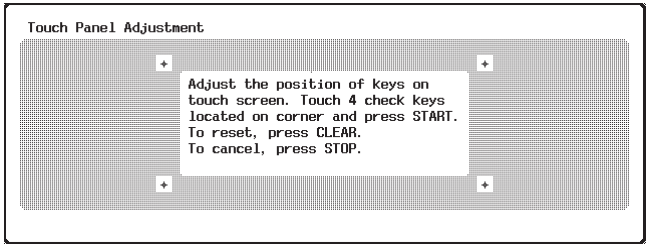
1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

8. Utility Mode

8.1 Touch Panel Adj.

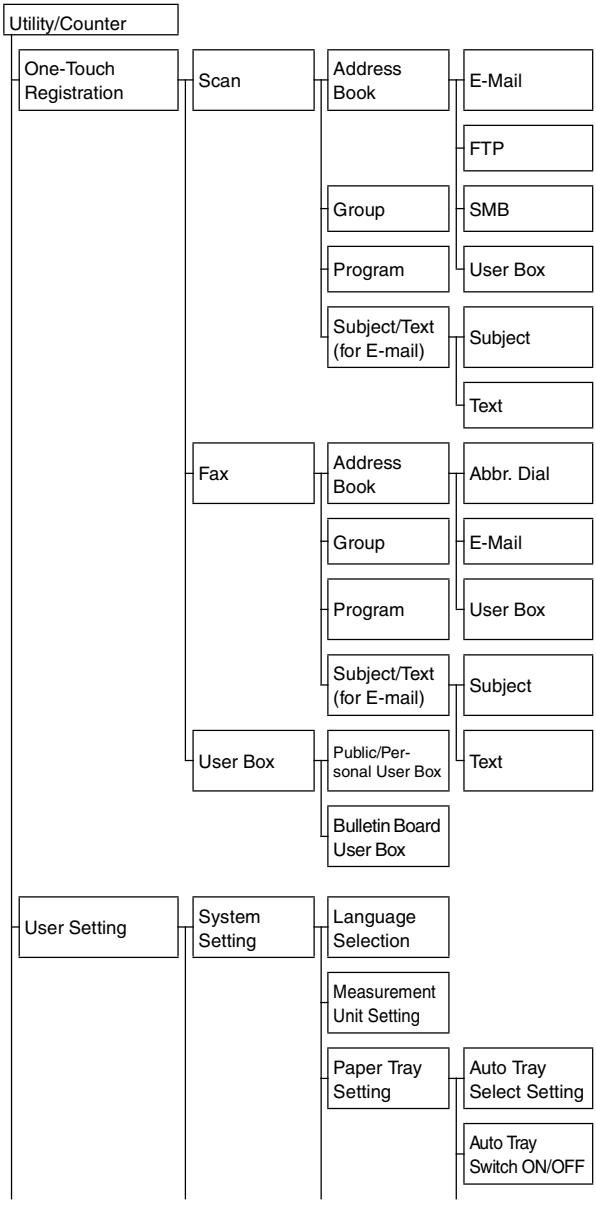
Functions	• To adjust the position of the Touch Panel display
Use	• Make this adjustment if the Touch Panel is slow to respond to a pressing action. • Use during the setup procedure.
Adjustment Procedure	*1.* Press the Accessibility key. *2.* Touch “Touch Panel Adj.” *3.* Using the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence. • These crosses may be touched in any order; but be sure to touch the center of each cross. • Use care not to damage the screen surface with the tip of the pen.  4037F3E512DA *4.* Touching all four crosses will turn the Start key ON in green. *5.* Press the Start key.

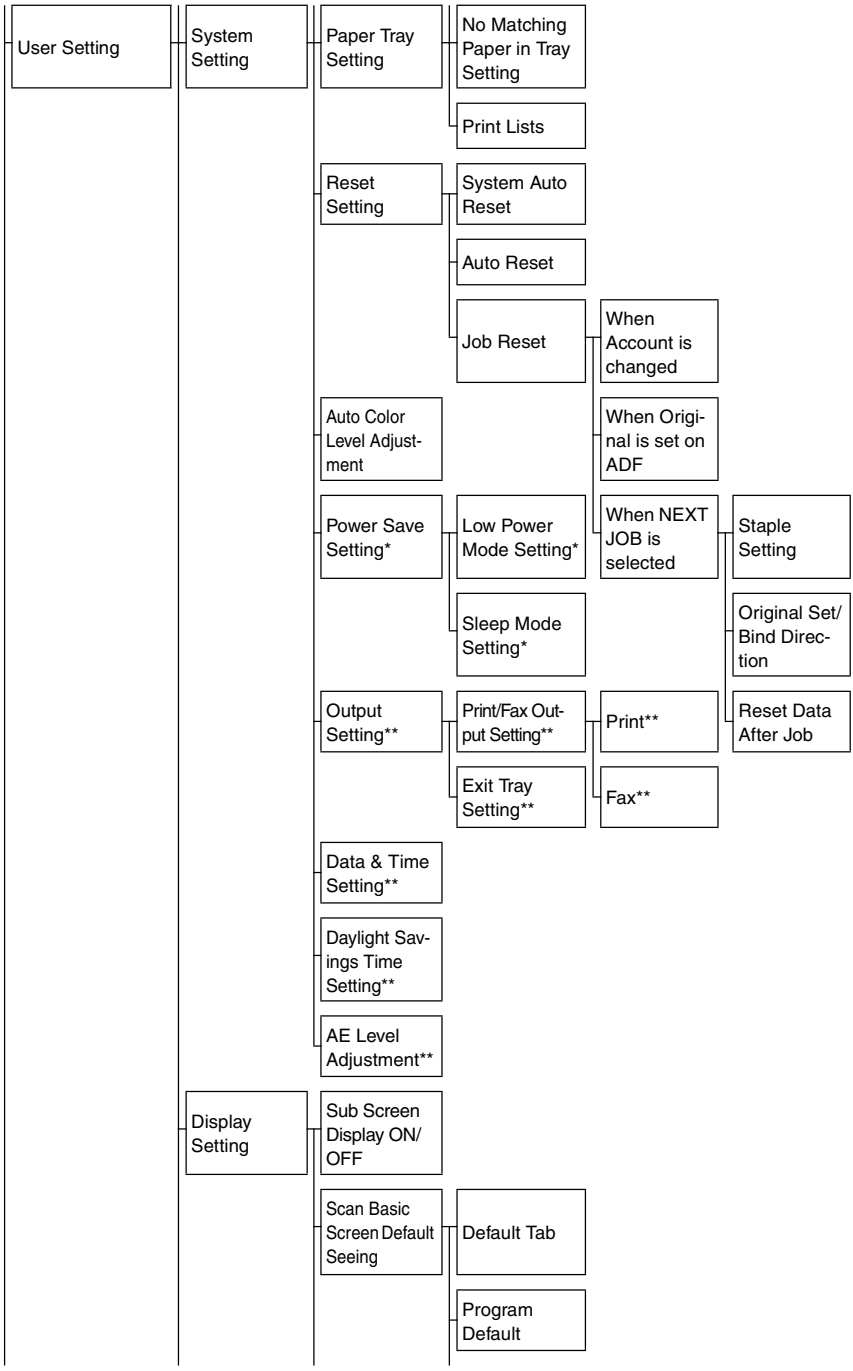
8.2 Utility Mode function tree

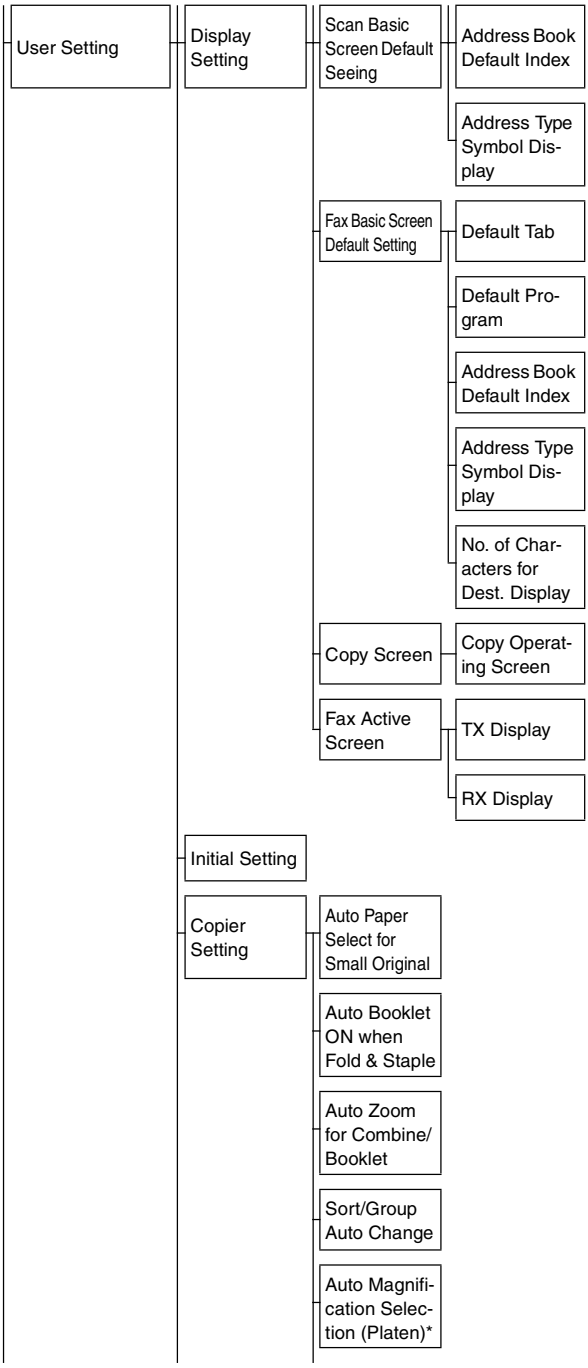
* The function tree is shown to comply with the format displayed on the screen.

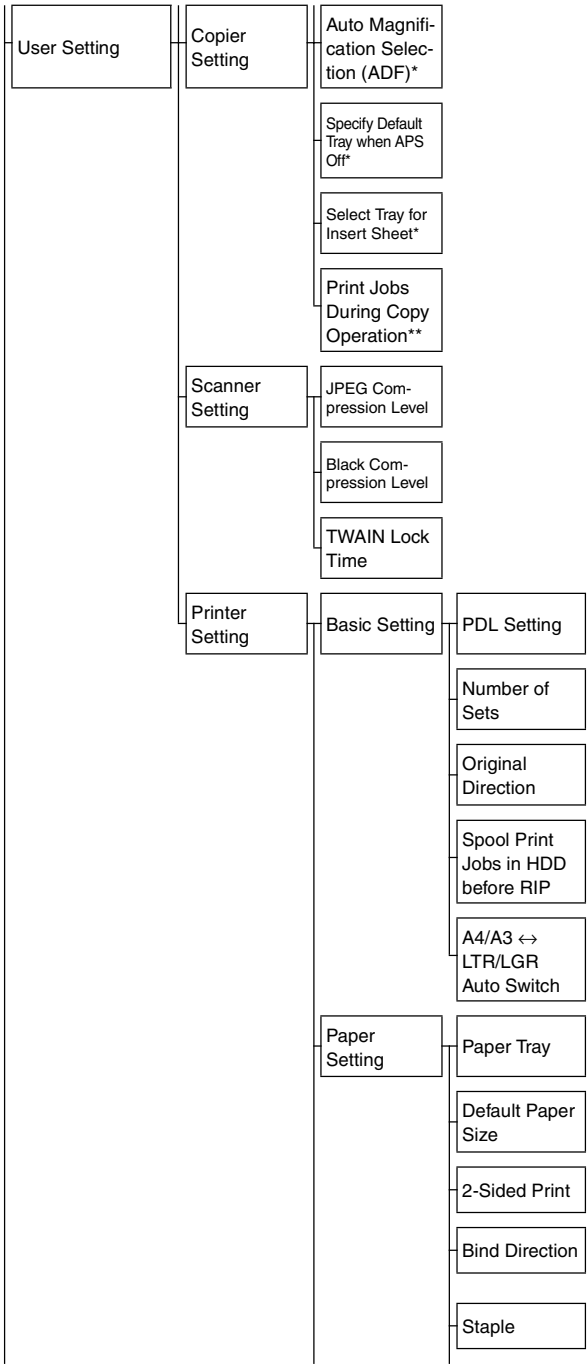
NOTE

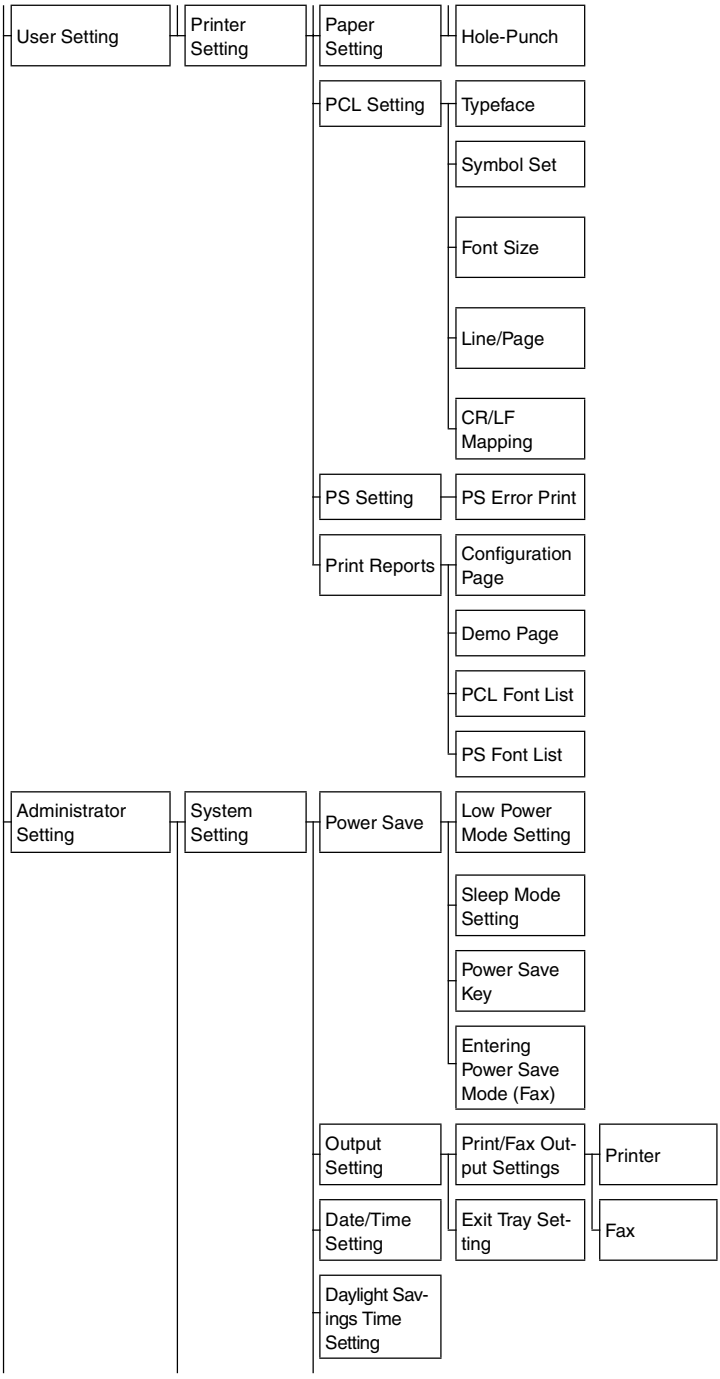
- **Keys displayed on screens are different depending on the setting.**
- **For displaying the keys with *, ** marks, see 214 "Administrator Security Level."**
- **For displaying the keys with *** marks, see 294 "Administrator Feature Level."**

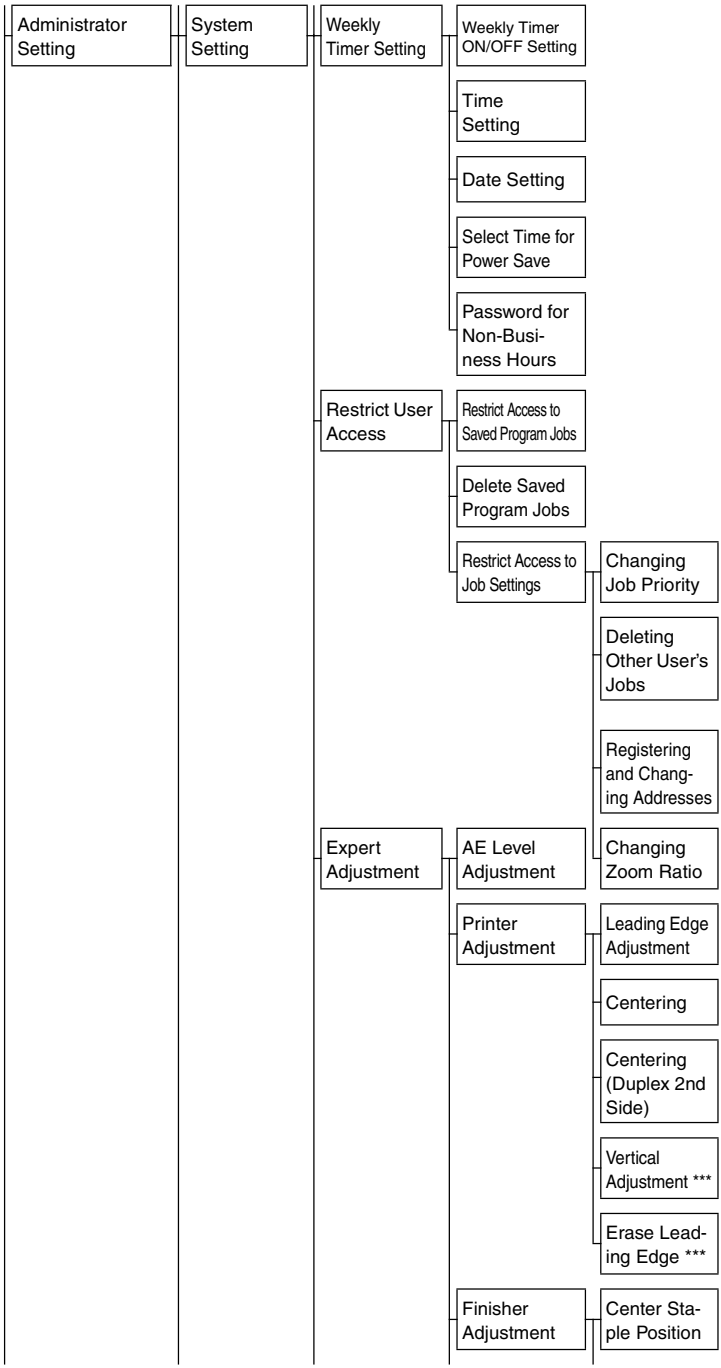


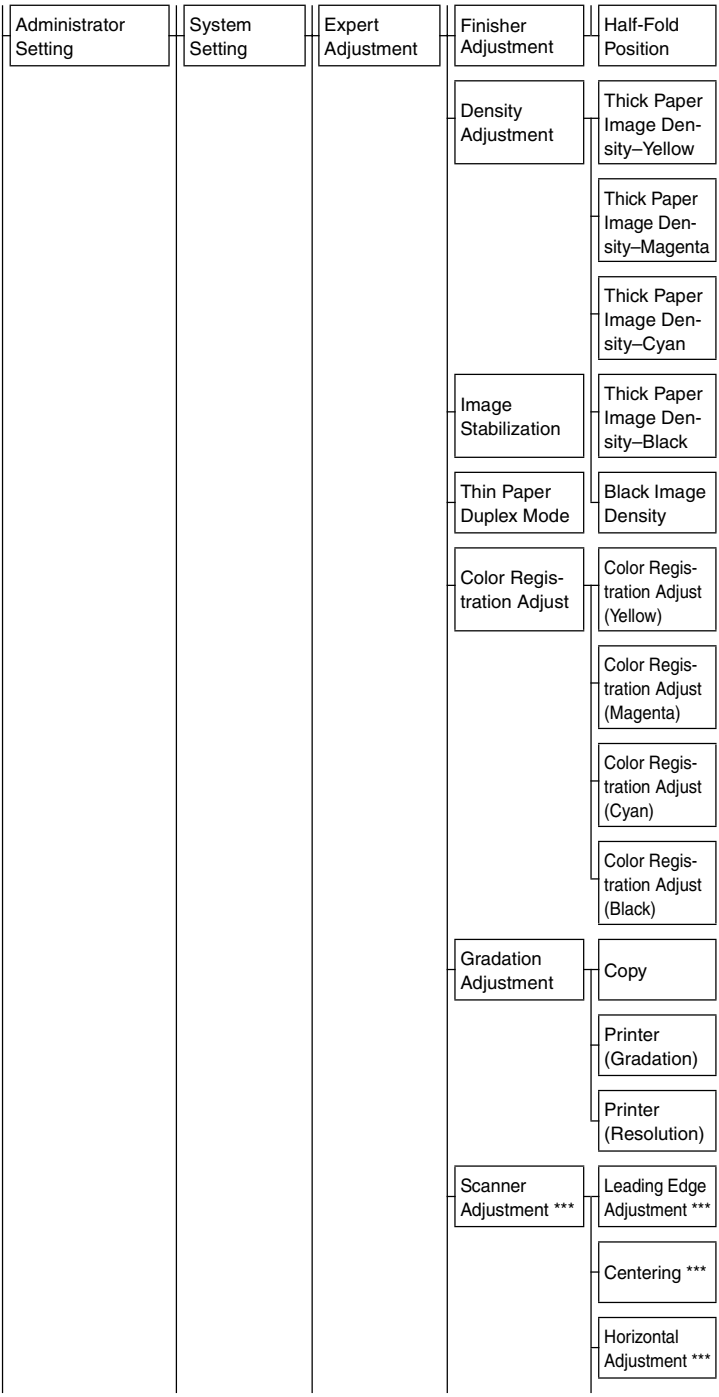

User Setting
System Setting
Paper Tray Setting
No Matching Paper in Tray Setting
Print Lists
Reset Setting
System Auto Reset
Auto Reset
Job Reset
When Account is changed
When Original is set on ADF
Auto Color Level Adjustment
Power Save Setting*
Low Power Mode Setting*
Sleep Mode Setting*
When NEXT JOB is selected
Staple Setting
Original Set/ Bind Direction
Output Setting**
Print/Fax Output Setting**
Exit Tray Setting**
Print**
Fax**
Reset Data After Job
Data & Time Setting**
Daylight Savings Time Setting**
AE Level Adjustment**
Display Setting
Sub Screen Display ON/ OFF
Scan Basic Screen Default Seeing
Default Tab
Program Default

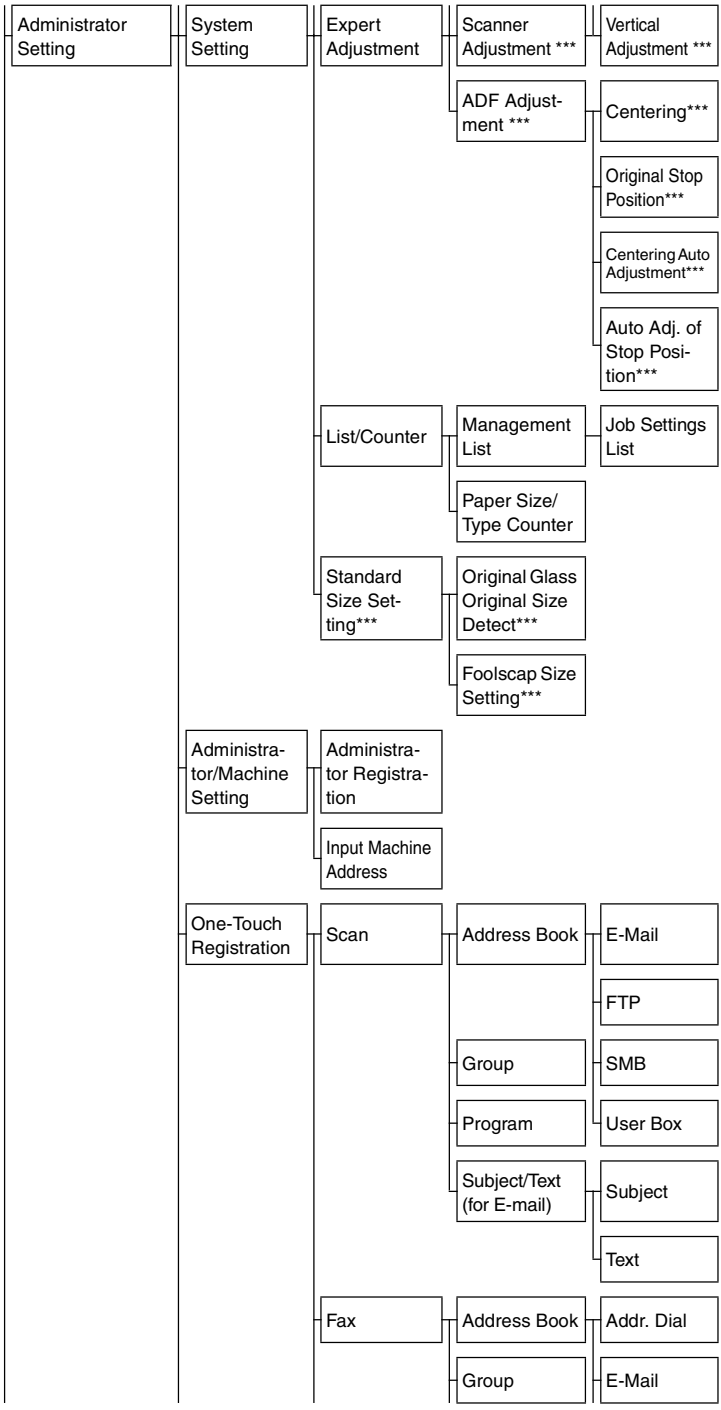

User Setting
Display Setting
Scan Basic Screen Default Seeing
Address Book Default Index
Address Type Symbol Display
Fax Basic Screen Default Setting
Default Tab
Default Program
Address Book Default Index
Address Type Symbol Display
No. of Characters for Dest. Display
Copy Screen
Copy Operating Screen
Fax Active Screen
TX Display
RX Display
Initial Setting
Copier Setting
Auto Paper Select for Small Original
Auto Booklet ON when Fold & Staple
Auto Zoom for Combine/ Booklet
Sort/Group Auto Change
Auto Magnification Selection (Platen)*

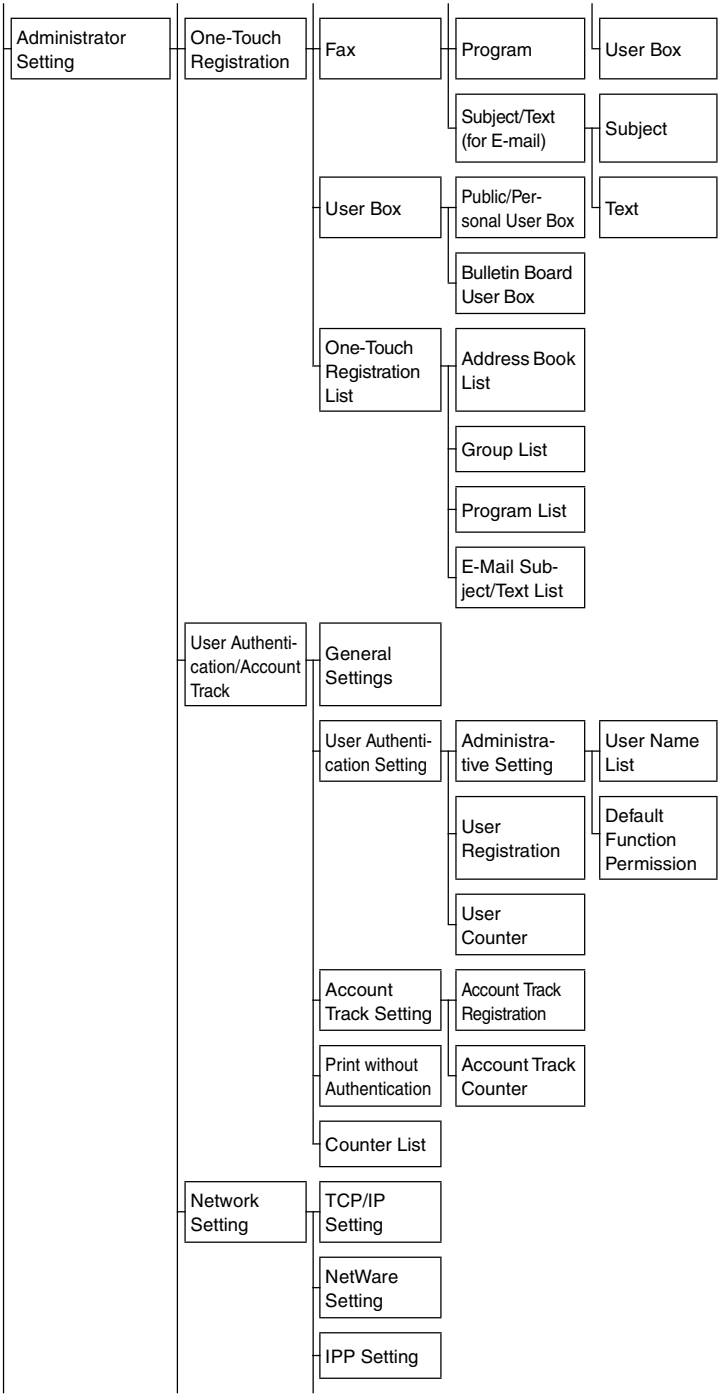

User Setting
Copier Setting
Auto Magnification Selection (ADF)*
Specify Default Tray when APS Off*
Select Tray for Insert Sheet*
Print Jobs During Copy Operation**
Scanner Setting
JPEG Compression Level
Black Compression Level
TWAIN Lock Time
Printer Setting
Basic Setting
PDL Setting
Number of Sets
Original Direction
Spool Print Jobs in HDD before RIP
A4/A3 ↔ LTR/LGR Auto Switch
Paper Setting
Paper Tray
Default Paper Size
2-Sided Print
Bind Direction
Staple

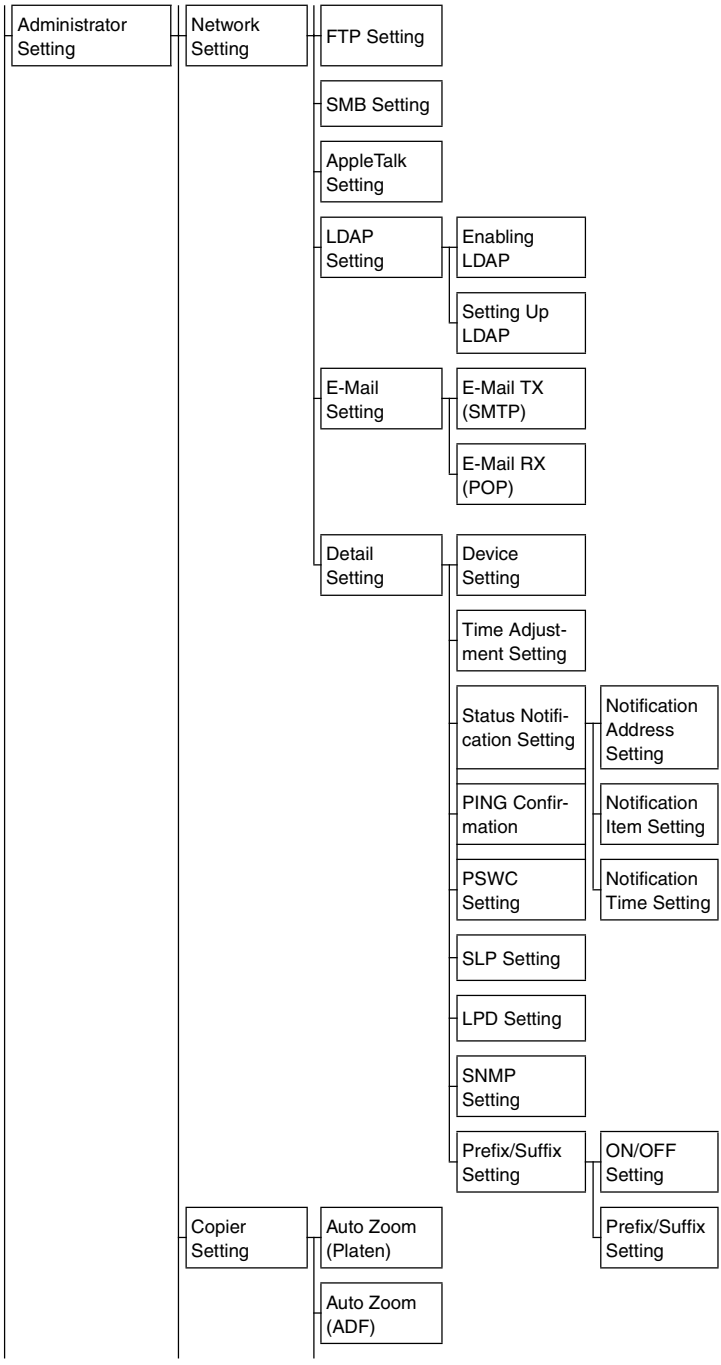

User Setting
Printer Setting
Paper Setting
Hole-Punch
PCL Setting
Typeface
Symbol Set
Font Size
Line/Page
CR/LF Mapping
PS Setting
PS Error Print
Print Reports
Configuration Page
Demo Page
PCL Font List
PS Font List
Administrator Setting
System Setting
Power Save
Low Power Mode Setting
Sleep Mode Setting
Power Save Key
Entering Power Save Mode (Fax)
Output Setting
Print/Fax Output Settings
Printer
Date/Time Setting
Exit Tray Setting
Fax
Daylight Savings Time Setting

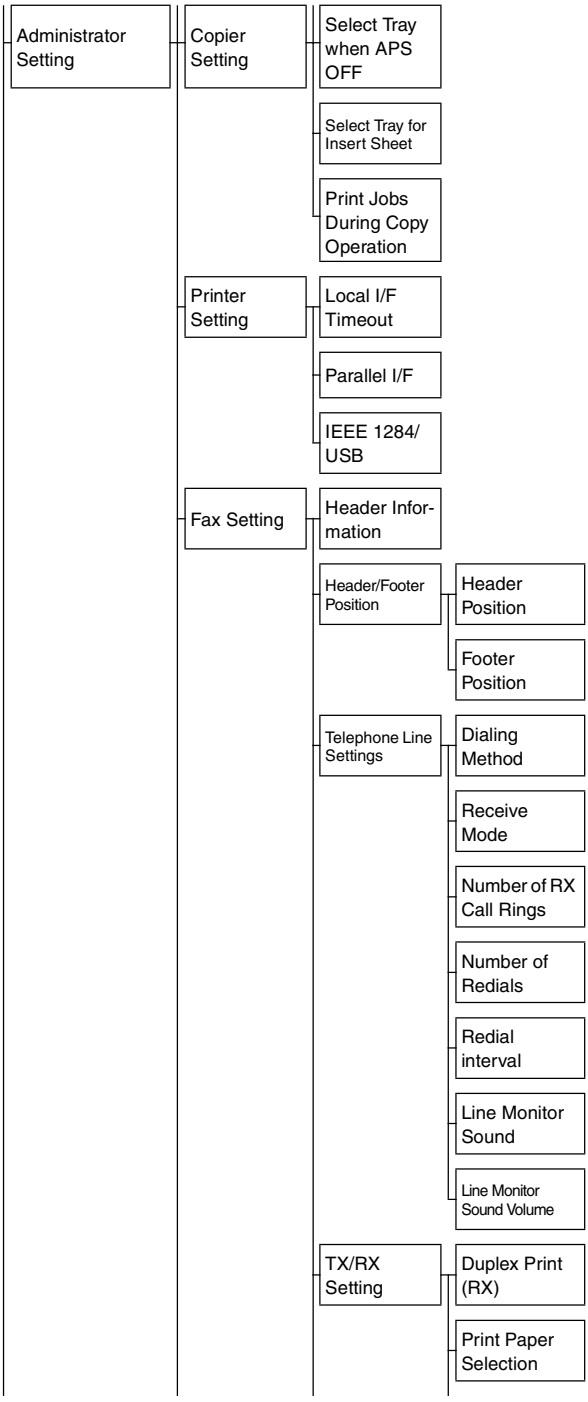

Administrator Setting
System Setting
Weekly Timer Setting
Weekly Timer ON/OFF Setting
Time Setting
Date Setting
Select Time for Power Save
Password for Non-Business Hours
Restrict User Access
Restrict Access to Saved Program Jobs
Delete Saved Program Jobs
Restrict Access to Job Settings
Changing Job Priority
Deleting Other User's Jobs
Registering and Changing Addresses
Expert Adjustment
AE Level Adjustment
Changing Zoom Ratio
Printer Adjustment
Leading Edge Adjustment
Centering
Centering (Duplex 2nd Side)
Vertical Adjustment ***
Erase Leading Edge ***
Finisher Adjustment
Center Staple Position

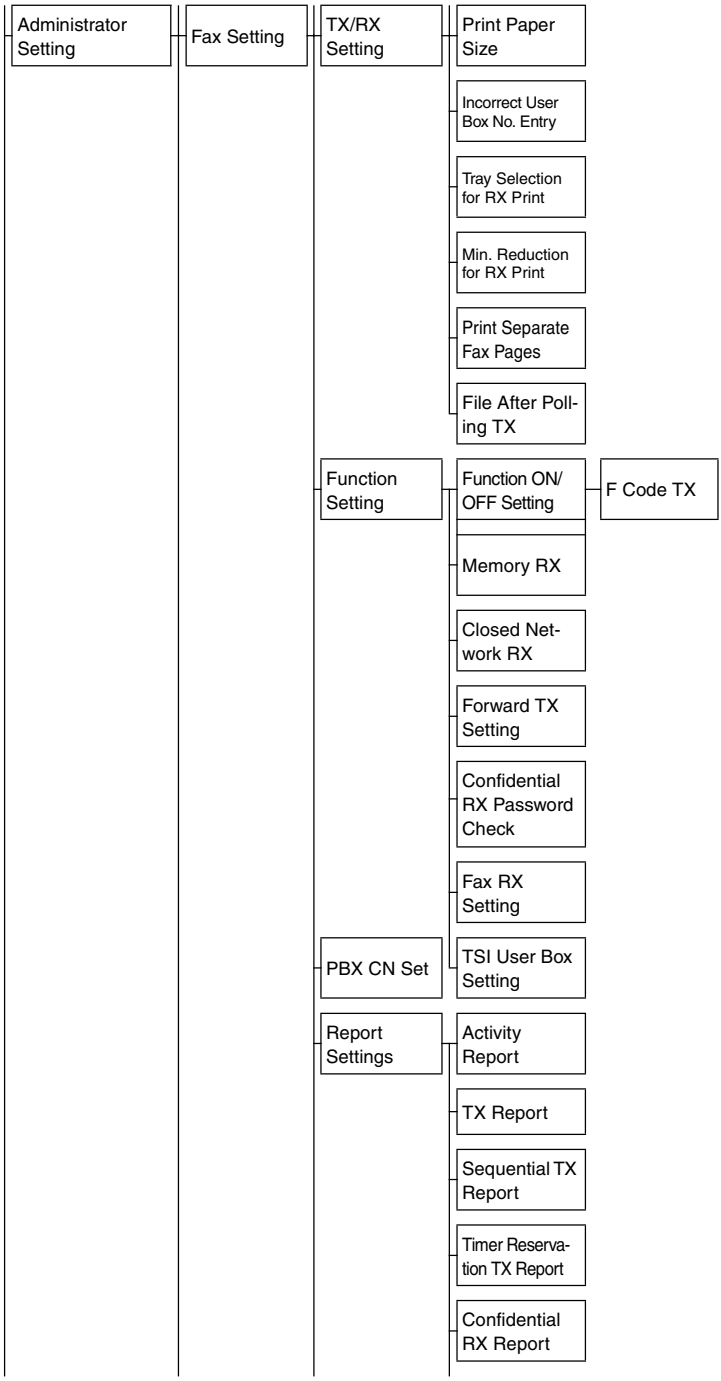

Administrator Setting
System Setting
Expert Adjustment
Finisher Adjustment
Half-Fold Position
Density Adjustment
Thick Paper Image Density–Yellow
Thick Paper Image Density–Magenta
Thick Paper Image Density–Cyan
Image Stabilization
Thick Paper Image Density–Black
Thin Paper Duplex Mode
Black Image Density
Color Registration Adjust
Color Registration Adjust (Yellow)
Color Registration Adjust (Magenta)
Color Registration Adjust (Cyan)
Color Registration Adjust (Black)
Gradation Adjustment
Copy
Printer (Gradation)
Printer (Resolution)
Scanner Adjustment ***
Leading Edge Adjustment ***
Centering ***
Horizontal Adjustment ***

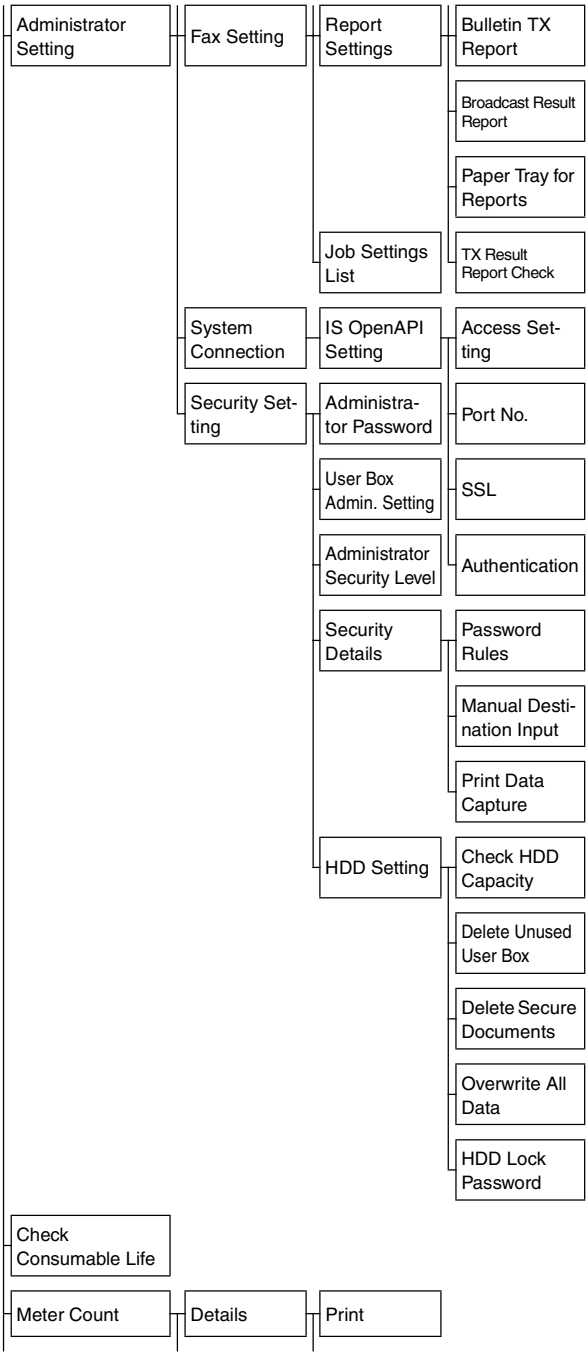

Administrator Setting
System Setting
Expert Adjustment
Scanner Adjustment ***
Vertical Adjustment ***
ADF Adjustment ***
Centering***
Original Stop Position***
Centering Auto Adjustment***
Auto Adj. of Stop Position***
List/Counter
Management List
Job Settings List
Paper Size/ Type Counter
Standard Size Setting***
Original Glass Original Size Detect***
Foolscap Size Setting***
Administrator/Machine Setting
Administrator Registration
Input Machine Address
One-Touch Registration
Scan
Address Book
E-Mail
FTP
Group
SMB
Program
User Box
Subject/Text (for E-mail)
Subject
Text
Fax
Address Book
Addr. Dial
Group
E-Mail

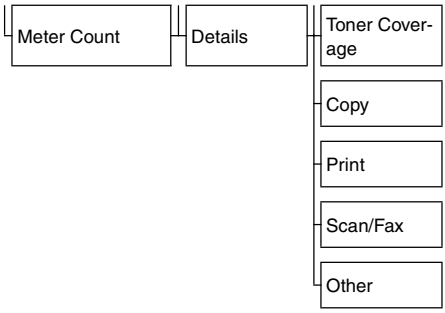

Administrator Setting
One-Touch Registration
Fax
Program
User Box
Subject/Text (for E-mail)
Subject
Text
User Box
Public/Personal User Box
Bulletin Board User Box
One-Touch Registration List
Address Book List
Group List
Program List
E-Mail Subject/Text List
User Authentication/Account Track
General Settings
User Authentication Setting
Administrative Setting
User Name List
User Registration
Default Function Permission
User Counter
Account Track Setting
Account Track Registration
Print without Authentication
Account Track Counter
Counter List
Network Setting
TCP/IP Setting
NetWare Setting
IPP Setting


Administrator Setting
Network Setting
FTP Setting
SMB Setting
AppleTalk Setting
LDAP Setting
Enabling LDAP
Setting Up LDAP
E-Mail Setting
E-Mail TX (SMTP)
E-Mail RX (POP)
Detail Setting
Device Setting
Time Adjust-ment Setting
Status Notifi-cation Setting
Notification Address Setting
PING Confir-mation
Notification Item Setting
PSWC Setting
Notification Time Setting
SLP Setting
LPD Setting
SNMP Setting
Prefix/Suffix Setting
ON/OFF Setting
Prefix/Suffix Setting
Copier Setting
Auto Zoom (Platen)
Auto Zoom (ADF)


Administrator Setting
Copier Setting
Select Tray when APS OFF
Select Tray for Insert Sheet
Print Jobs During Copy Operation
Printer Setting
Local I/F Timeout
Parallel I/F
IEEE 1284/ USB
Fax Setting
Header Information
Header/Footer Position
Header Position
Footer Position
Telephone Line Settings
Dialing Method
Receive Mode
Number of RX Call Rings
Number of Redials
Redial interval
Line Monitor Sound
Line Monitor Sound Volume
TX/RX Setting
Duplex Print (RX)
Print Paper Selection


Administrator Setting
Fax Setting
TX/RX Setting
Print Paper Size
Incorrect User Box No. Entry
Tray Selection for RX Print
Min. Reduction for RX Print
Print Separate Fax Pages
File After Polling TX
Function Setting
Function ON/OFF Setting
F Code TX
Memory RX
Closed Network RX
Forward TX Setting
Confidential RX Password Check
Fax RX Setting
PBX CN Set
TSI User Box Setting
Report Settings
Activity Report
TX Report
Sequential TX Report
Timer Reservation TX Report
Confidential RX Report

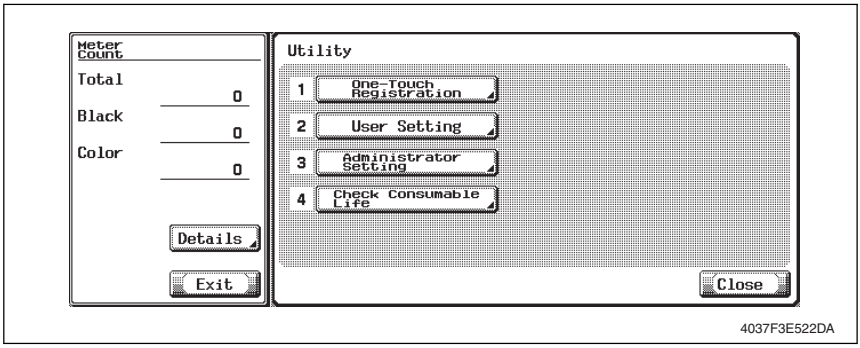

Administrator Setting
Fax Setting
Report Settings
Bulletin TX Report
Broadcast Result Report
Paper Tray for Reports
Job Settings List
TX Result Report Check
System Connection
IS OpenAPI Setting
Access Setting
Security Setting
Administrator Password
Port No.
User Box Admin. Setting
SSL
Administrator Security Level
Authentication
Security Details
Password Rules
Manual Destination Input
Print Data Capture
HDD Setting
Check HDD Capacity
Delete Unused User Box
Delete Secure Documents
Overwrite All Data
HDD Lock Password
Check Consumable Life
Meter Count
Details
Print


Meter Count
Details
Toner Cover-age
Copy
Print
Scan/Fax
Other

8.3 Utility Mode function setting procedure

8.3.1 Procedure

1. Press the Utility/Counter key.
2. The Utility mode screen will appear.



8.3.2 Exiting

- Touch the “Close” key.

8.3.3 Changing the setting value in Utility Mode functions

- Use the +/- key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

8.4 One-Touch Registration

8.4.1 Scan

A. Address Book

(1) E-Mail

Functions Use	• To register/change e-mail address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(2) FTP

Functions Use	• To register/change FTP address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(3) SMB

Functions Use	• To register/change SMB address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(4) User Box

Functions Use	• To register/change the Box address when storing the scanned data in the box in the hard disk in the main unit.
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

B. Group

Functions Use	• To register/change a group to send scanned data simultaneously.
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed group to check, change or delete them. • At least one address must be registered for registering a new group.

C. Program

Functions Use	• To register/change the Scan Program.
Setting/ Procedure	• Select any program No. to register, check, change, or delete the setting.

D. Subject/Text (for E-mail)

(1) Subject

Functions	• To register the e-mail subject when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(2) Text

Functions	• To register the e-mail message when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

8.4.2 Fax

A. Address Book

(1) Abbr. Dial

Functions	• To register/change the Fax numbers.
Use	
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(2) E-Mail

Functions	• To register/change the e-mail address when transmitting the Fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

(3) User Box

Functions	• To register/change the Box address when storing the Fax original in the box of the hard disk in the machine.
Use	
Setting/ Procedure	• A new address can be registered by touching “New” key. • Select any displayed address to check, change or delete the setting.

B. Group

Functions	• To register/change a group of addresses to send Fax data simultaneously.
Use	
Setting/ Procedure	• A new group can be registered by touching “New” key. • Select any displayed group to check, change or delete the setting. • At least one address should be registered in order to register the group.

C. Program

Functions	• To register/change the Fax program.
Use	
Setting/ Procedure	• Select any program No. to register, check, change or delete the setting.

D. Subject/Text (for E-mail)

(1) Subject

Functions	• To register the e-mail subject when transmitting the Fax original.
Use	
Setting/ Procedure	• A new subject can be registered by touching “New” key. • Select any displayed subject to check, change or delete the setting.

(2) Text

Functions	• To register the e-mail message when transmitting the Fax original.
Use	
Setting/ Procedure	• A new message can be registered by touching “New” key. • Select any displayed message to check, change or delete the setting.

8.4.3 User Box

A. Public/Personal User Box

Functions	• To register/change the box for storing text data in the hard disk of the machine.
Use	• Shared or personal box can be registered according to its intended use.
Setting/ Procedure	• A new box can be registered by touching “New” key. • Select any displayed box to change or delete it.

B. Bulletin Board User Box

Functions	• To register/change the Bulletin Board User Box.
Use	
Setting/ Procedure	• A new box can be registered by touching “New” key. • Select any displayed box to change or delete it.

8.5 User Setting

8.5.1 System Setting

A. Language Selection

Functions	• To select the language on the LCD display
Use	• To change the language on the control panel to another language.
Setting/ Procedure	• The language options depend on the marketing area selected in “Marketing Area” available from “System 1” under Service Mode.

B. Measurement Unit Setting

Functions	• To select the unit displayed on the LCD display.
Use	• To change the unit displayed on the control panel.
Setting/ Procedure	• The default setting varies depending on the marketing area mm (Numerical Value) inch (Numerical Value) inch (Fraction)

C. Paper Tray Setting

(1) Auto Tray Select Setting

Functions	• To set the Tray for automatic selection when APS is being set. • To establish the priority for switching the Tray when ATS is being set.
Use	• To specify the Tray to be used when APS is being set. • To establish the priority of the Tray when ATS is being set.
Setting/ Procedure	• Select the Tray on the Auto Tray Select screen. • Set the priority on the Tray priority screen.

(2) Auto Tray Switch ON/OFF

Functions	• To set whether to automatically switch to another Tray with same size paper when the Paper Take-up Tray runs out of paper during printing.
Use	• To switch the Paper Take-up Tray automatically.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

(3) No Matching Paper in Tray Setting

Functions	• To set whether to switch to another Tray automatically when the specified Tray runs out of paper during printing. Stop Printing (Tray Fixed) : It stops printing when the specified Tray runs out of paper. Switch Trays (Tray Priority): To switch to another Tray with the specified paper and print when the Tray is out of paper
Use	
Setting/ Procedure	• The default setting is Stop Printing (Tray Fixed). “Stop Printing (Tray Fixed)” Switch Trays (Tray Priority)

(4) Print Lists

Functions Use	• To set the Paper Take-up Tray for output the list for the Meter count or the Unit check.
Setting/ Procedure	• The default setting is “Tray 1.”

D. Reset Setting

(1) System Auto Reset

Functions	• To set the period of time until System Auto Reset stars functioning.
Use	• To change the period of time until System Auto Reset starts functioning.
Setting/ Procedure	<Priority Mode> • To set the functions displayed during System Auto Reset from Copier, Scanner, and the Fax. • The default setting is Copy. “Copy” Scan Fax <System Auto Reset Time> • The default setting is 1 min. “1 min.” (1 to 9, OFF)

(2) Auto Reset

Functions	• To set the period of time until Auto Reset starts functioning in “Copier”, “Scanner”, and the “Fax.”
Use	• To change the period of time until Auto Reset starts functioning.
Setting/ Procedure	• The default setting is 1 min. “1 min.” (1 to 9, OFF)

(3) Job Reset

<When Account is changed>

Functions	• To select whether to reset the copying mode functions to the default ones when the Key Counter is unplugged, a magnetic card is pulled out, User Authentication/Volume Track is set.
Use	• To select not to reset to the default settings even when the accounts are changed through the use of a data management device.
Setting/ Procedure	• The default setting is Reset. “Reset” Do Not Reset

<When Original is set on ADF>

Functions	• To set whether to set the copy mode to the default setting when the original is set to ADF.
Use	• To reset the copy mode to the default setting when the original is set to ADF.
Setting/ Procedure	• The default setting is Do Not Reset. Reset “Do Not Reset”

<When NEXT JOB is selected: Staple Setting>

Functions Use	• To set whether to cancel the staple setting when the Staple setting job started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<When NEXT JOB is selected: Original Set / Bind Direction>

Functions Use	• To set whether to cancel the Original Set/Bind direction when the job (which original set/bind direction is set) started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<When NEXT JOB is selected: Reset Data After Job>

Functions Use	• To set whether to cancel the setting for scanning or transmitting Fax when the scanning is finished or Fax is transmitted, making the next job setting available. (The address will be cleared even when “OFF” is selected.)
Setting/ Procedure	• The default setting is OFF. ON “OFF”

E. Auto Color Level Adjustment

Functions	• To set the criterion level to discriminate between a colored original and a black-and-white original in the Auto Color mode
Use	• To change the criterion level for the partly colored image to be taken as a black-and-white original
Setting/ Procedure	• Five levels are available to choose from and the default setting is 3. Black Standard Full Color 1 2 “3” 4 5

8.5.2 Display Setting

A. Sub Screen Display ON/OFF

Functions	• To set the Sub Screen Display on the control panel.
Use	• To change the Sub Screen Display. Setting Value : An illustration of the selected key will be displayed Job List : The list of job which are being executed will be displayed
Setting/ Procedure	• The default setting is Setting Value. “Setting Value” Job List

B. Scan Basic Screen Default Seeing

(1) Default Tab

Functions	• To set the Basic Screen display in Scanner mode.
Use	• To change the Basic Screen display in Scanner mode.
Setting/ Procedure	• The default setting is Program. "Program" Group Address Book Direct Input

(2) Program Default

Functions	• To set the default display for the program screen during Scanner mode.
Use	• To keep the default display on the program screen which frequently changes during scanner mode
Setting/ Procedure	• The default setting is PAGE 1. Temporary One-Touch/ "PAGE1" to PAGE27

(3) Address Book Default Index

Functions	• To set the default display for the Address Book screen during Scanner mode.
Use	• To keep the default display instead of search string on the Address Book which frequently changes during Scanner mode.
Setting/ Procedure	• The default setting is Main. "Main" /ABC to WXYZ / etc

(4) Address Type Symbol Display

Functions	• To set whether to display the Address Type Symbol on each address key when selecting the address to transmit scanned data.
Use	• To cancel displaying the Address Type Symbol on the address key.
Setting/ Procedure	• The default setting is ON. "ON" OFF

C. Fax Basic Screen Default Setting

(1) Default Tab

Functions	• To set the basic screen display during Fax mode.
Use	• To change the basic screen display during Fax mode.
Setting/ Procedure	• The default setting is Program. "Program" Group Address Book Direct Input

(2) Default Program

Functions	• To set the default display for the program screen during Fax mode.
Use	• To keep the default display on the program screen which frequently changes during Fax mode.
Setting/ Procedure	• The default setting is PAGE 1. Temporary One-Touch / "PAGE1" to PAGE27

(3) Address Book Default Index

Functions	• To set the default display for abbreviation/address screen during Fax mode.
Use	• To keep the default display instead of abbreviations/address search string which frequently changes during Fax mode.
Setting/ Procedure	• The default setting is Main. "Main" / ABC to WXYZ / etc

(4) Address Type Symbol Display

Functions	• To set whether to display the Address Type symbol on each address key when selecting the address to transmit Fax.
Use	• To cancel displaying the Address Type symbol on each address key.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(5) No. of Characters for Dest. Display

Functions	• To set the number of characters for the address displayed on the address key when selecting the address to transmit Fax.
Use	• To display the whole address which consists of over fifteen characters.
Setting/ Procedure	• The default setting is 14 char. "14 char." 24 char.

D. Copy Screen

(1) Copy Operating Screen

Functions	• To set the display on the control panel screen during printing.
Use	• To display the screen to indicate printing when printing is being carried out. ON : The screen shows that the printing is being carried out. The job can be reserved with "Program Next Job" key. OFF: The screen does not indicate the printing being carried out. The normal Copy setting screen will be displayed. The copy reservation is available.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

E. Fax Active Screen

(1) TX Display

Functions	• To set the screen display for the control panel when transmitting Fax.
Use	• To display "Sending" on the screen when transmitting Fax.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) RX Display

Functions	• To set the screen display on the control panel when receiving Fax.
Use	• To display “Receiving” on the screen when receiving the Fax.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

8.5.3 Initial Setting

Functions	• To register the default setting for the Copy mode function, the Scanner mode function, and the Fax mode function. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Clear. • The password entry screen for account Track is changed. • Application is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • To register the Copy mode, scanner mode, or Fax mode set on the panel. • Carry out this setting after the necessary setting for each mode. <Factory Default> • Mode set prior to the shipping. • The corresponding setting will be the one which has been set prior to the shipping by carrying out this setting from each mode screen.

8.5.4 Copier Setting

A. Auto Paper Select for Small Original

Functions	• To make the copy setting when the paper is undetectably small, or no original is being set.
Use	• To copy the original such as business cards with which the Original detection is not effective. Copy on Small Size : Copies on A5 paper. Copy on A4/Letter : Copies on A4 or Letter size paper. Prohibit Copy : Does not copy since the original size cannot be detected. Paper Take-up Tray needs to be selected prior to pressing the Start key.
Setting/ Procedure	• The default setting is Prohibit Copy. Copy on Small Size Copy on A4/Letter “Prohibit Copy”

B. Auto Booklet ON when Fold & Staple

Functions	• To set whether to set the Auto Booklet when Fold & Staple is selected.
Use	• To cancel setting the Auto Booklet when Fold & Staple is selected.
Setting/ Procedure	• The default setting is Auto Select Booklet. "Auto Select Booklet" OFF

C. Auto Zoom for Combine/Booklet

Functions	• To set whether to select the appropriate magnification when Combine or Booklet is selected during Auto Paper Select.
Use	• To cancel selecting the appropriate magnification when Combine or Booklet is selected during Auto Paper Select.
Setting/ Procedure	• The default setting is Auto Display Zoom Ratio. "Auto Display Zoom Ratio" OFF

D. Sort/Group Auto Change

Functions	• To set whether to automatically switch Sort/Group according to the number of originals and the copies.
Use	• To cancel the function to automatically sort two originals or more when they are set to ADF.
Setting/ Procedure	• The default setting is ON. "ON" OFF

E. Auto Magnification Selection (Platen)

Functions	• To set whether to automatically set the magnification or not when the original is detected to be set on the original glass while the Paper Take-up Tray is selected (except Auto Paper Select).
Use	• To automatically set the Auto Magnification when Paper Take-up Tray is selected.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

F. Auto Magnification Selection (ADF)

Functions	• To set whether to automatically set the Auto magnification when the original is detected to be set to ADF while Paper Take-up Tray is selected (except Auto Paper Select).
Use	• To automatically set the Auto magnification while the Paper Take-up Tray is selected.
Setting/ Procedure	• The default setting is ON. "ON" OFF

G. Specify Default Tray when APS Off

Functions	• To set the Tray to be used when APS is cancelled.
Use	• To set the Tray for the initial setting when APS is cancelled.
Setting/ Procedure	• The default setting is Tray Before APS ON. "Tray Before APS ON" Default Tray

H. Select Tray for Insert Sheet

Functions Use	• To select the default setting of the Tray for Cover sheet paper.
Setting/ Procedure	• The default setting is Tray 2.

I. Print Jobs During Copy Operation

Functions	• To set whether to accept the printing job for Print data or Fax data during copy operation.
Use	• To refuse Print data or Fax data during copy operation. Accept : Receives the Print data or Fax data to print. Receive Only : Print data or Fax data will be printed when the copy operation is finished.
Setting/ Procedure	• The default setting is Accept. "Accept" Receive Only

8.5.5 Scanner Setting

A. JPEG Compression Level

Functions	• To set the JPEG Compression method when scanning with JPEG while in Scanner mode.
Use	• To change the compression rate when JPEG scanning. High Quality : Lowers the compression rate and puts priority in quality while scanning. Standard : Compression rate and quality are normally balanced while scanning. High Compression: Makes the compression rate higher and puts priority in lowering the data volume while scanning.
Setting/ Procedure	• The default setting is Standard. High Quality "Standard" High Compression

B. Black Compression Level

Functions	• To set the monochrome compression method for scanning in the monochrome mode while in Scanner mode.
Use	• To be used when changing the monochrome mode while in Scanner mode.
Setting/ Procedure	• The default setting is MMR. MH "MMR"

C. TWAIN Lock Time

Functions Use	• To set the period of time for unlocking the operation panel while in TWAIN scanning.
Setting/ Procedure	• The default setting is 120 sec. 120 sec. (30 to 300)

8.5.6 Printer Setting

A. Basic Setting

(1) PDL Setting

Functions	• To set the PDL (Page Description Laguage) for PC printing.
Use	• To fix the PDL as necessary. It usually switches automatically.
Setting/ Procedure	• The default setting is Auto. "Auto" PCL PS

(2) Number of Sets

Functions	• To set the number to be copied when not specified by the printer driver during PC printing.
Use	• To use when the number cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is 1. "1" (1 to 999)

(3) Original Direction

Functions	• To set the default setting for the direction of the original during PC printing.
Use	
Setting/ Procedure	• The default setting is Portrait. "Portrait" Landscape

(4) Spool Print Jobs in HDD before RIP

Functions	• To set whether to store the print data to HDD when receiving the next job during Rip process of the current job.
Use	
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(5) A4/A3 ↔ LTR/LGR Auto Switch

Functions	• To set whether to switch between A4 and Letter size paper, and A3 and Ledger size paper in reading.
Use	• To output Letter size document to A4 size, and Ledger size document to A3 size. • To output A4 size document to Letter size, and A3 size document to Ledger size. **NOTE** **• When switching the size, the image will be printed in the same magnification.** **• The image will not be reduced when there is image deficiency.**
Setting/ Procedure	• The default setting is OFF. ON "OFF"

B. Paper Setting

(1) Paper Tray

Functions	• To set the Paper Take-up Tray when not specified by the printer driver during PC printing.
Use	• To use when Paper Take-up Tray cannot be specified by the printer driver when printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Auto.

(2) Default Paper Size

Functions	• To set the paper size when not specified by the printer diver during printing.
Use	• To use when the paper size cannot be specified by the printer driver during printing from Windows DOS, etc.

(3) 2-Sided Print

Functions	• To set whether to carry out duplex print during PC printing when not specified by the printer driver.
Use	• To use when 2-sided printing cannot be specified by the printer driver while printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(4) Bind Direction

Functions	• To set the binding direction during duplex printing when not specified by the printer driver during PC printing.
Use	• To use when binding direction cannot be specified by the printer driver during printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is Left Bind. Top Bind “Left Bind” Right Bind

(5) Staple

Functions	• To set whether to staple or not when not specified by the printer driver during PC printing.
Use	• To use hen staple is not specified by the printer driver during printing by the Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. 1 Position 2 Positions “OFF”

(6) Hole-Punch

Functions	• To select whether to make punch-holes or not when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify punching during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

C. PCL Setting

(1) Typeface

Functions	• To set the font when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify the font during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Courier.

(2) Symbol Set

Functions	• To set the Font Symbol Set when not specified by the printer driver during PC printing.
Use	• To use when the Font Symbol Set cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Roman-8 or PC8, Code Page 437.

(3) Font Size

Functions	• To set the font size when not specified by the printer driver during PC printing.
Use	• To set the font size when it cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Scalable Font : 12.00 points Bitmap Font : 10.00 points

(4) Line/Page

Functions	• To set the number of lines per page for printing the text data.
Use	• To change the number of lines per page for printing the text data.
Setting/ Procedure	• The default setting is 60 or 64 lines. "60 or 64 lines" (5 to 128)

(5) CR/LF Mapping

Functions	• To set the mode for replacing data when printing the text data.
Use	• To change the mode for replacing data when printing the text data. Mode 1 : Replacing CR with CR-LF Mode 2 : Replacing LF with CR-LF Mode 3 : Replacing with CR-LF OFF : Does not replace
Setting/ Procedure	• The default setting is OFF. Mode 1 Mode 2 Mode 3 "OFF"

D. PS Setting

(1) PS Error Print

Functions	• To set whether to print or not the error information when an error occurred during PS rasterizing.
Use	• To print the information concerning the PostScript error.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

E. Print Reports

Functions	• To output the report or Demo Page concerning the print setting.
Use	• To check the setting concerning the printer. The types of report available for output are as follows. Configuration Page : The list of printer setting will be output. Demo Page : The test page will be output. PCL Font List : PCL Font List will be output. PS Font List : PS Font List will be output.
Setting/ Procedure	*1.* Touch "User Setting" → "Printer Setting" → "Print Reports" key. *2.* Select the report to be output. *3.* Select the Paper Take-up Tray and press the Start key.

8.6 Administrator Setting

- The Administrator setting will be available by entering the administrator password (8 digits) set by the administrator setting.
  (The administrator password is initially set to "12345678.")

8.6.1 System Setting

A. Power Save

(1) Low Power Mode Setting

Functions	• To set the time until Low Power starts operating after the last key operation has been completed. • Low Power: To turn LED and LCD OFF, and lower the power consumption.
Use	• To change the time until Low Power starts.
Setting/ Procedure	• Use the 10-Key Pad for setting. • The default setting is 15 min. "15 min." (10 to 240)

(2) Sleep Mode Setting

Functions	• To set the time until Sleep Mode starts operating after the last key operation has been completed. • Turn all lines OFF except 5 V line for Control. • "OFF" will only be displayed when "No Sleep" in Service Mode is set.
Use	• To change the time until the Sleep Mode starts.
Setting/ Procedure	• Use the 10-Key Pad for setting. • The default setting is 30 min. "30 min." (15 to 240) / OFF

(3) Power Save Key

Functions	• To set the type of the Power Save Mode which starts by pressing the Power Save Key.
Use	• To change the Power Save function which starts by pressing the Power Save key.
Setting/ Procedure	• The default setting is Low Power. "Low Power" Sleep

(4) Entering Power Save Mode (Fax)

Functions	• To set whether to immediately switch to the Power Save Mode after printing in case of receiving the Fax during Power Save Mode.
Use	• To immediately switch to the Power Save Mode after printing in case of receiving the Fax during Power Save Mode. Normal : Switches to the Power Save Mode according to the normal Power Save Mode after the printing. Immediately : Switches to the Power Save Mode immediately after the printing.
Setting/ Procedure	• The default setting is Normal. "Normal" Immediately

B. Output Setting

(1) Print/Fax Output Settings

Functions	• To set the timing for printing for the PC print job or Fax received.
Use	Batch Print : Starts printing when all data are received Page Print : Starts printing every time data for each page are received
Setting/ Procedure	<Printer> • The default setting is Page Print. <Fax> • The default setting is Batch Print.

(2) Exit Tray Setting

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports). * This setting is available only when FS-507 is mounted.
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : 2 Print : 2 Fax : 3 Reports : 3

C. Date/Time Setting

Functions	• To set the date/time and the time zone to start the clock.
Use	• To change settings concerning the date/time. • This setting should be carried out for set up.
Setting/ Procedure	• For time zone, set the time difference with the world standard time. • Setting range for the time zone: -12:00 to +12:00 (by 30 minutes)

D. Daylight Saving Time Setting

Functions	• To set whether to set the daylight saving time. • To set the time difference in setting the daylight saving time.
Use	• To set the daylight saving time.
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When setting to ON, set the time difference to move up. “60 min.” (1 to 150)

E. Weekly Timer Setting

(1) Weekly Timer ON/OFF Setting

Functions	• To set whether to use or not to use the Weekly Timer.
Use	• To set the Weekly Timer.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Time Setting

Functions	• To set the time to turn ON/OFF the Weekly Timer for each day of the week.
Use	
Setting/ Procedure	*1.* Touch the key of the day to be set. *2.* Using the 10-Key Pad, input the ON time and the OFF time. *3.* For canceling the setting, press Clear key.

(3) Date Setting

Functions	• To select the date or the day of the week for the Weekly Timer to function.
Use	
Setting/ Procedure	*1.* Select the Year/Month with +/- keys. *2.* For setting by the date, touch the appropriate key of the day. *3.* For setting by the day of the week, touch the appropriate key of the week by “Daily Setting.” *4.* Check to make sure that the set key of the day is highlighted, and touch “OK” key.

(4) Select Time for Power Save

Functions	• To set the time to turn power OFF/ON when the Weekly Timer is set and the power is ON.
Use	• To turn power OFF for a certain period of time when the Weekly Timer is set.
Setting/ Procedure	• The default setting is OFF. ON “OFF” <Set Time for Power Save> • Using the 10-Key Pad, input the time to turn OFF and to turn back ON again.

(5) Password for Non-Business Hours

Functions	• To set whether to input the password before using when the Weekly Timer is set.
Use	• To set the password for turning the power ON temporarily when the Weekly Timer is set.
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When setting to ON, enter the password (eight digits).

F. Restrict User Access

(1) Restrict Access to Saved Program Jobs

Functions	• To set the prohibition for modifying the registered Copy program.
Use	• To be used when prohibiting the user from changing the Copy program.
Setting/ Procedure	*1.* Touch the key for the appropriate Copy program. *2.* Touch “OK” key.

(2) Delete Saved Program Jobs

Functions	• To delete the registered Program Job.
Use	• To delete the registered Program Job.
Setting/ Procedure	*1.* Touch the appropriate Program Job. *2.* Touch “Delete” key. *3.* Touch “Yes” key on the Check screen to delete the Program Job.

(3) Restrict Access to Job Settings

<Changing Job Priority>

Functions	• To set whether to allow or restrict the change on the print priority for the Job.
Use	• To Restrict the change on the print priority for the Job.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

<Deleting Other User’s Jobs>

Functions	• To set whether to allow or restrict Job delete by other users when the user is authenticated.
Use	• To allow other users to delete the Job when the user is authenticated.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

<Registering and Changing Addresses>

Functions	• To set whether to allow or restrict the change of the registered address.
Use	• To prohibit the change on the registered address.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

<Changing Zoom Ratio>

Functions	• To set whether to allow or restrict the change on the registered magnification.
Use	• To prohibit the change on registered magnification.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

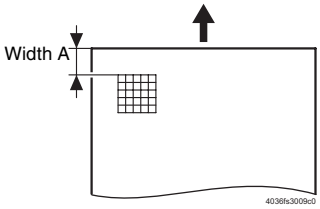
G. Expert Adjustment

(1) AE Level Adjustment

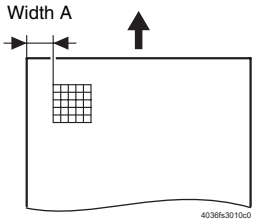
Functions	• To set the default setting for AE (Auto Exposure) The larger the value becomes the more emphasized the background will be.
Use	To make the background level foggier: Increase the setting value To make the background level less foggy: Decrease the setting value
Setting/ Procedure	• The default setting is 2. “2” (0 to 4)

(2) Printer Adjustment

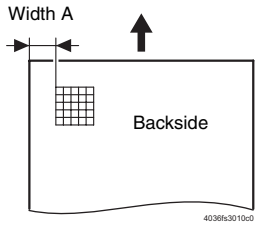
<Leading Edge Adjustment>

Functions	• To vary the print start position in the sub scan direction for each of different paper types in Tray 1.
Use	• The LPH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.0 to 7.0 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Printer Adjustment” → “Leading Edge Adjustment.” *3.* Select the “Normal.” *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “OK.” *11.*Following the same procedure, adjust for Thick 1 to 3, OHP, and envelope.

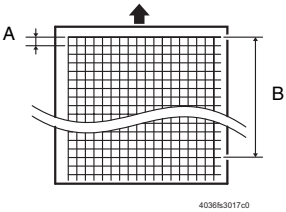
<Centering>

Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The LPH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Printer Adjustment” → “Centeringt.” *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “END.” *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

<Centering (Duplex 2nd Side)>

Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Printer Adjustment” → “Centering (Duplex 2nd Side).” *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “END.” *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Manual Bypass Tray.)

<Vertical Adjustment>

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• The I adjustment becomes necessary. • The image on the copy distorts (stretched, shrunk). • When the image on the copy is stretched in the sub scan direction.
Adjustment Specification	 Width A and width B on the test pattern produced should fall within the following ranges. Width A: equivalent to one grid Width B: equivalent to 48 grids Specifications A: 7.9 to 8.3 B: 389.1 to 392.1 Setting Range A, B: -10 to +10
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Load Tray 1 with A3 or 11 × 17 plain paper. *2.* Call the Service Mode to the screen. *3.* Touch these keys in this order: “Test Mode” → “Lattice Pattern.” *4.* Select “Black,” “SINGLE,” “FEET,” “CD Width:6,” “FD Width:6,” “Density:255,” and “Normal.” *5.* Press the Start key to let the machine produce a test pattern. *6.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *7.* Call the Administrator Setting to the screen. *8.* Touch “System Setting” → “Expert Adjustment” → “Printer Adjustment” → “Vertical Adjustment.” *9.* If width of A or B falls outside the specified range, change the setting using the Up/Down keys. *10.*Press the Start key to let the machine produce a test pattern. *11.*Check width A and width B on the test pattern. *12.*If width A or B falls outside the specified range, change the setting value and make a check again. *13.*If width A or B falls within the specified range, touch “OK.” *14.*Following the same procedure, adjust for “Thick 1 to 3,” “OHP,” and “Envelope.” (Check width A only for “OHP” and “Envelope.”)

<Erase Leading Edge>

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper.
Setting/ Procedure	• The default setting is “4 mm”. “4 mm” 5 mm 7 mm

(3) Finisher Adjustment

<Center Staple Position>

Functions	• To adjust the positions of center staple for the Finisher.
Use	• Use when the center staple positions deviate from the correct ones in the copies made using the Staple function.
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

<Half-Fold Position>

Functions	• To adjust the positions of folding for the Finisher.
Use	• Use when the center folding positions deviate from the correct ones in the copies made using the Fold function.
Adjustment Specification	• Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

(4) Density Adjustment

<Thick Paper Image Density-Yellow, Magenta, Cyan, Black>

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies.
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	• The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level.
Adjustment Instructions	Light color: Touch the Darker key. (5 steps) Dark color: Touch the Lighter key. (5 steps)
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Density Adjustment” → “Thick Paper Image Density-Yellow/Magenta/Cyan/Black.” *3.* Touch the Lighter or Darker key for the desired color to correct the image density.

<Black Image Density>

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), “Std”, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Adjustment Procedure	*4.* Call the Administrator Setting to the screen. *5.* Touch “System Setting” → “Expert Adjustment” → “Density Adjustment” → “Black Image Density.” *6.* Touch the Lighter or Darker key as necessary to correct the image density.

(5) Image Stabilization

<Image Stabilization Only>

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When D Max Density and Background Voltage Margin of Service mode are changed.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch "System Setting" → "Expert Adjustment" → "Image Stabilization" → "Image Stabilization Only." *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

<Initialize+Image Stabilization>

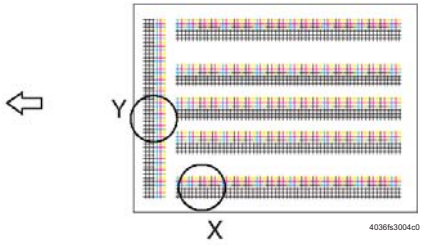
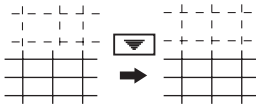
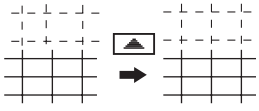
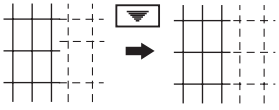
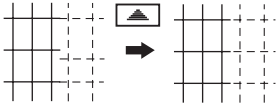
Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Image Stabilization has been executed.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch "System Setting" → "Expert Adjustment" → "Image Stabilization" → "Initialize+Image Stabilization." *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

(6) Thin Paper Duplex Mode

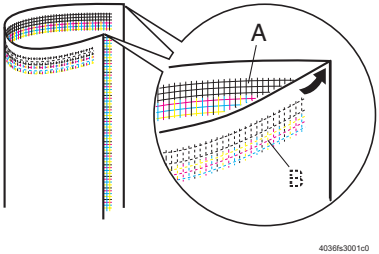
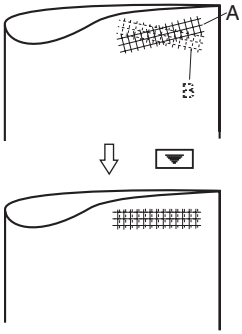
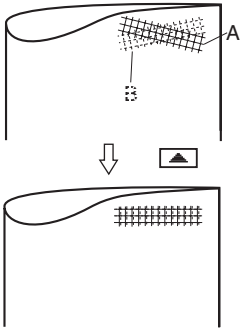
Functions	• Turn this function ON when thin paper (64 g/m^2) is used in an ambience of high temperature and high humidity in the 2-sided mode. • It decreases the transfer output value so as to prevent a paper misfeed from occurring.
Use	• Use when a paper misfeed occurs when thin paper is used.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(7) Color Registration Adjust

<Color Registration Adjust (Yellow, Magenta, Cyan)>

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper. • Before making this adjustment, be sure to perform Color Registration Adjust (Black).
Use	• To correct any color shift
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch "System Setting" → "Expert Adjustment" → "Color Registration Adjust." *3.* Load Tray 1 with A3/11x17 or A4/8 1/2x11 paper (Normal or Thick 1 to 3). *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the paper type. *7.* Select the color to be adjusted. *8.* Using the +/- key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *9.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  4036fs3004c0 Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  4036fs3005c0 Direction of D  4036fs3006c0 Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  4036fs3007c0 Direction of D  4036fs3008c0

<Color Registration Adjust (Black)>

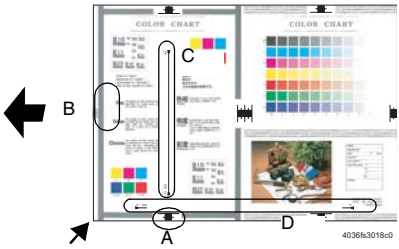
Functions	• To correct black color shift, if it occurs with plain or thick paper. • Make Color Registration Adjust (cyan, magenta, and yellow) after this adjustment has been made.
Use	• To correct black color shift, if it occurs • The LPH Assy (K) has been replaced.
Adjustment Range	"0" (-10 to +10 dot)
Adjustment Instructions	If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch "System Setting" → "Expert Adjustment" → "Color Registration Adjust" → "Color Registration Adjust (Black)." *3.* Load Tray 1 with A3 or A4 paper (plain or thick). *4.* Press the Start key. *5.* Fold the printed test pattern in half lengthwise to check for deviation (the image on the inside). *6.* Check deviation between black lines A and B. *7.* Select the paper type. *8.* Select black. *9.* Change the setting value using the +/- key as necessary. *10.*Produce another test pattern and check for deviation. Check Procedure Check point A, B  4036fs3001c0 If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value. Direction of C  4036fs3002c0 Direction of D  4036fs3003c0

(8) Gradation Adjustment

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image. • Printer (Gradation) : It gives the highest priority to gradation performance of the image as it adjusts. • Printer (Resolution) : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • Copy : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Max: 0 ± 100 Highlight: 0 ± 60
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Gradation Adjustment.” *3.* Select the appropriate mode for the Gradation Adjustment. *4.* Press the Start key to let the machine produce a test pattern. *5.* Place the test pattern produced on the Original Glass. *6.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *7.* Press the Start key. (The machine will then start scanning the test pattern.) *8.* Touch “OK” and repeat steps from 2 through 6 twice (a total of three times). *9.* Touch “Gradation Adjust” to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Max and Highlight. *10.*Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Main Power Switch and perform Gradation Adjust once again. • If either Max or Highlight still remains outside the specified ranges perform D Max Density. • If a total of four sequences of Gradation Adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

(9) Scanner Adjustment

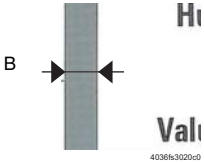
- Use the following Color Chart for the adjustment of the Scanner Section.
- If the Color Chart is not available, a scale may be used instead.



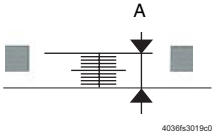
Original Reference

- A: Centering
- B: Leading Edge Adjustment
- C: Horizontal Adjustment
- D: Vertical Adjustment

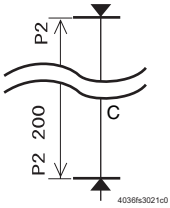
<Leading Edge Adjustment>

Functions	• To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the main scan direction.
Use	When the Original Glass is replaced. When the Original Width Scale is replaced.
Adjustment Specification	 •Adjust so that width B on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Leading Edge Adjustment” of the Printer Adjustment. Specifications B: 7 ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting Range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If width B on the copy is less than 6.5 mm, increase the setting value. If width B on the copy is more than 7.5 mm, decrease the setting value.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Scanner Adjustment” → “Leading Edge Adjustment.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

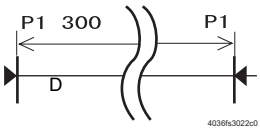
<Centering>

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD Unit is replaced. • When the Original Glass is replaced. • The Scanner Home Sensor has been replaced.
Adjustment Specification	 •Adjust so that width A on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Leading Edge Adjustment” of the Printer Adjustment. Specifications A: 10 ± 1.0 mm Setting Range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the 0-mm position on the sample copy is on the right side of the correct 0-mm position perpendicularly to the feeding direction (less than -1 mm), decrease the setting. If the 0-mm position on the sample copy is on the left side of the correct 0-mm position perpendicularly to the feeding direction (exceeding 1 mm), increase the setting.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Scanner Adjustment” → “Centering.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make a copy. *8.* Check point A of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Horizontal Adjustment>

Functions	• To adjust the zoom ratio in the main scan direction for the Scanner Section
Use	• The CCD Unit has been replaced.
Adjustment Specification	 •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of "Vertical Adjustment" of the Printer Adjustment. Specifications C: ± 1.0 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch "System Setting" → "Expert Adjustment" → "Scanner Adjustment" → "Horizontal Adjustment." *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Vertical Adjustment>

Functions	• To adjust the zoom ratio in the sub scan direction for the Scanner Section
Use	• The Scanner Assy has been replaced. • The Scanner Motor has been replaced. • The Scanner Drive Cables have been replaced.
Adjustment Specification	 •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Vertical Adjustment” of the Printer Adjustment. Specifications D: ± 1.5 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch “System Setting” → “Expert Adjustment” → “Scanner Adjustment” → “Vertical Adjustment.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

(10) ADF Adjustment

<Centering>

Functions	• To make a manual adjustment of the document centering position in each of the ADF modes.
Use	• When “Auto Adj. of Stop Position” is NG.
Setting/ Procedure	☞ See Automatic Document Feeder Service Manual.

<Original Stop Position>

Functions	• To make a manual adjustment of the document stop position and scanning position in each of the ADF modes.
Use	• When “Auto Adjust Stop Position” is NG.
Setting/ Procedure	☞ See Automatic Document Feeder Service Manual.

<Centering Auto Adjustment>

Functions	• Adjust the start position for image scanning
Use	• Upon setup of the ADF
Setting/ Procedure	☞ See Automatic Document Feeder Service Manual.

<Auto Adj. of Stop Position: Front>

Functions	• Adjust the document stop position for the first side. • Check for skew.
Use	• Upon setup of the ADF
Setting/ Procedure	☞ See Automatic Document Feeder Service Manual.

<Auto Adj. of Stop Position: Back>

Functions	• Adjust the document stop position for the second side.
Use	• Upon setup of the ADF
Setting/ Procedure	☞ See Automatic Document Feeder Service Manual.

H. List/Counter

(1) Management List

Functions	• To output the value set by the setting menu.
Use	
Setting/ Procedure	*1.* Touch “Job Settings List” key. *2.* Select the Paper Take-up tray and press the Start key.

(2) Paper Size/Type Count

Functions	• To register the combination of the specific paper size and the paper type, and to set the count.
Use	
Setting/ Procedure	*1.* Press a key out of 1 to 10 registration keys. *2.* Select the paper type. *3.* Touch the paper size key to select the paper size.

I. Standard Size Setting

(1) Original Glass Original Size Detect

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table.
Setting/ Procedure	• The default setting is “Table1.” “Table1” Table2

(2) Foolscap Size Setting

Functions	• To set the size for Foolscap paper.
Use	• Upon setup. • To change the size for Foolscap paper.
Setting/ Procedure	• Select the size from among the following four. 220 x 330 mm 81/2 x 13 81/4 x 13 81/8 x 131/4 8 x 13

8.6.2 Administrator/Machine Setting

A. Administrator Registration

Functions	• To register the information on Administrator and the From address for e-mail transmission.
Use	
Setting/ Procedure	*1.* Touch “Name” key, “E-Mail Address” key to input them. *2.* Using the 10-Key Pad, enter the Extension No.

B. Input Machine Address

Functions	• To register the name of the Machine and E-mail address.
Use	• The registered address will be used to receive e-mail in the box in the machine. It can also be used as one of the From addresses for the scanner job.
Setting/ Procedure	*1.* Touch “Machine Name” key and input the name. *2.* Touch “E-mail” key, and input the address.

8.6.3 One-Touch Registration

A. Scan

(1) Address Book

<E-Mail>

Functions	• To register/change the e-mail address for transmitting the scanned data by e-mail.
Use	
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

<FTP>

Functions	• To register and change the FTP address for transmitting the scanned data by FTP.
Use	
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

<SMB>

Functions	• To register or change the SMB address for transmitting the scanned data by SMB.
Use	
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

<User Box>

Functions Use	• To register or change the Box address for storing the scanned data to the Box in the hard disk of the Machine.
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

(2) Group

Functions Use	• To register or change the group with a number of addresses to transmit data simultaneously.
Setting/ Procedure	• Touch “New” key to register the new group. • elect any displayed group to check, change, or delete the setting. • At least one address must be registered in order to register the group.

(3) Program

Functions Use	• To register or change the Scan Program.
Setting/ Procedure	• Select any program No. to register, and to check, change or delete the setting.

(4) Subject/Text (for E-mail)

<Subject>

Functions Use	• To register the e-mail subject for transmitting the scanned data by e-mail.
Setting/ Procedure	• Touch “New” key to register the new subject. • Select any displayed subject to check, change, or delete the setting.

<Text>

Functions Use	• To register the e-mail message for transmitting the scanned data by e-mail.
Setting/ Procedure	• Touch “New” key to register the new message. • Select any displayed message to check, change, or delete the setting.

B. Fax

• Settings are available only when the Optional FAX kit (FK-502) is mounted.

(1) Address Book

<Addr. Dial>

Functions Use	• To register or change the Fax number for transmitting the Fax.
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

<E-Mail>

Functions Use	• To register or change the e-mail address for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

<User Box>

Functions Use	• To register or change the Box address in the hard disk of the machine when storing the Fax data in the Box.
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed address to check, change, or delete the setting.

(2) Group

Functions Use	• To register or change the group with a number of addresses to transmit the Fax data simultaneously.
Setting/ Procedure	• Touch “New” key to register the new address. • Select any displayed group to check, change, or delete the setting. • At least one address of the group must be registered in order to register the group.

(3) Program

Functions Use	• To register or change the Fax Program.
Setting/ Procedure	• Select any Program No, to register, and to check, change, or delete the setting.

(4) Subject/Text (for E-mail)

<Subject>

Functions Use	• To register the e-mail Subject for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch “New” key to register the new subject. • Select any displayed subject to check, change, or delete the setting.

<Text>

Functions Use	• To register the e-mail message for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch “New” key to register the new message. • Select any displayed message to check, change, or delete the setting.

C. User Box

(1) Public/Personal User Box

Functions	• To register or change the Box for storing the text data in the hard disk of the machine.
Use	• To register the shared or personal box for any purpose.
Setting/ Procedure	• Touch “New” key to register the new box. • Select any displayed box to change or delete it.

(2) Bulletin Board User Box

Functions	• To register or change the Bulletin Board User Box.
Use	
Setting/ Procedure	• Touch “New” key to register the new box. • Select any displayed box to change or delete it.

D. One-Touch Registration List

(1) Address Book List

Functions	• To output the Address Book List.
Use	• To print the list of abbreviated addresses which are registered.
Setting/ Procedure	*1.* Select the Destination Type to be output. *2.* Specify the Registration No. range to be output. *3.* Touch “Print” key, and select the Paper Take-up Tray. *4.* Press the Start key to output the list of abbreviated addresses.

(2) Group List

Functions	• To output the Group List.
Use	• To print out the list of addresses of the group which are registered.
Setting/ Procedure	*1.* Specify the Registration No. range to be output. *2.* Touch “Print” key, and select the Paper Take-up Tray. *3.* Press the Start key to output the list of the addresses of the group.

(3) Program List

Functions	• To output the Program List.
Use	• To print out the list of the Program addresses which are registered.
Setting/ Procedure	*1.* Select the Destination Type to be output. *2.* Specify the Registration No. range to be output. *3.* Touch “Print” key, and select the Paper Take-up Tray. *4.* Press the Start key, and output the list of Program.

(4) E-Mail Subject/Text List

Functions	• To output the Subject or the Text list.
Use	• To print out the E-mail Subject/Text List which are registered.
Setting/ Procedure	*1.* Select the Paper Take-up Tray. *2.* Press the Start key to output the Subject/Text List.

8.6.4 User Authentication/Account Track

A. General Settings

(1) User Authentication

Functions	• To set the User Authentication method.
Use	• To select whether to authenticate the user by the External Server or MFP.
Setting/ Procedure	• The default setting is OFF. "OFF" ON (External Server) ON (MFP)

(2) Public User Access

Functions	• To set whether to allow or prohibit the nonregistered user to use the system when User authentication has been set.
Use	
Setting/ Procedure	• The default setting is Restrict. "Restrict" Allow **NOTE** **• This setting is not available without User Authentication.**

(3) Account Track

Functions	• To set whether to enable the Account Track function or not.
Use	• To enable the Account Track function.
Setting/ Procedure	• The default setting is OFF. "OFF" ON

(4) Account Track Input Method

Functions	• To set the Authentication method for the Account Track.
Use	• To select whether to authenticate by password or by account name & password.
Setting/ Procedure	• The default setting is Account Name & Password. "Account Name & Password" Password Only **NOTE** **• This setting is not available without the Account Track.**

(5) When # of Jobs Reach Maximum

Functions	• To set whether to stop the currently printing job and start the next job, or to stop the machine, when reaching to the upper limit for the number of printed pages set by the User Authentication and the Account Track.
Use	• To stop the machine when the number of printed pages reach the upper limit set by the User authentication and the Account Track.
Setting/ Procedure	• The default setting is Skip Job. "Skip Job" Stop Job **NOTE** **• This setting is available only with User authentication and the Account Track.**

(6) Synchronize User Authentication & Account Track

Functions	• To set whether to synchronize the User Authentication and Account Track.
Use	• To be used when not to synchronize the User Authentication and Account Track.
Setting/ Procedure	• The default setting is Synchronize. "Synchronize" Do not synchronize **NOTE** • **The setting is available only when carrying out the User Authentication and Account Track.**

(7) # of Counters Assigned for Users

Functions	• To set the number available to be assigned for the User registration and Account registration.
Use	• To change the number available to be assigned for the User registration and Account registration.
Setting/ Procedure	• The default setting is 500. • The total number to be registered for the User Authentication and Account Track is 1000. The number for the User registration will be set. • When setting the "# of Counters Assigned for Users" to 50, the number available for Account Track will be 950.

B. User Authentication Setting

(1) Administrative Setting

<User Name List>

Functions	• To set whether to display or not the list key for User names on User Authentication screen.
Use	• To display the list key for User names on User Authentication screen
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Default Function Permission>

Functions	• To set the default value for the Function Permission in User Authentication by the External Server.
Use	• To set the function which authenticated user can use when initially authenticating the user by the External Server. • Items available for setting: Copy operation, Scan operation, Fax operation, and printing, and User Box operation
Setting/ Procedure	• The default settings are Allow. "Allow" Restrict"

(2) User Registration

Functions	• To register or change the user.
Use	• To register or change the user for authentication.
Setting/ Procedure	*1.* Select the user (001 to 1000). *2.* Input the User Name, User Password, and E-Mail address. *3.* Set the Output Permission, Max Allowance Set, and Function Permission, and touch "OK" key.

(3) User Counter

Functions	• To display the status of use of the copier, printer, scanner, and Fax for each user.
Use	• To check the status of use of the copier, printer, scanner, and Fax for each user.
Setting/ Procedure	*1.* Select the user. *2.* Select the key to check to see the status of use. *3.* For clearing the counter, touch “Clear Counter” key.

C. Account Track Setting

(1) Account Track Registration

Functions	• To register and change the Account.
Use	• To register and change the account for Account Track.
Setting/ Procedure	*1.* Select the proper Account. (001 to 500). *2.* Input the Account Name and the Password. *3.* Set the Output Permission, and Max. Allowance Set, and touch “OK” key.

(2) Account Track Counter

Functions	• To display the status of use of the copier, printer, scanner, and Fax for each account.
Use	• To check the status of use of the copier, printer, scanner, and Fax for each account.
Setting/ Procedure	*1.* Select the account. *2.* Select the key for the item to be checked. *3.* For clearing the counter, touch “Clear Counter” key.

D. Print without Authentication

Functions	• To set whether to allow or restrict the print which user and account are not specified.
Use	• To allow or restrict printing which user and account are not specified.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

E. Counter List

Functions	• To print out the User counter and the account counter.
Use	• To output the user counter and account counter to be checked.
Setting/ Procedure	*1.* Touch “Counter List” key. *2.* Select the Paper Take-up Tray. *3.* Press the Start key.

8.6.5 Network Setting

A. TCP/IP Setting

(1) TCP/IP Setting

Functions	• To set whether to enable or disable TCP/IP setting.
Use	• To disable TCP/IP setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** **• When the setting is changed, turn main power switch OFF and ON again.**

(2) IP Address

Functions	• To set the IP address of the device used in the network.
Use	• To enter the IP address of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(3) Subnet Mask

Functions	• To set the subnet mask of the device used in the network.
Use	• To enter the subnet mask of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(4) Default Gateway

Functions	• To set the gateway address of the device used in the network.
Use	• To enter the gateway address of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(5) DHCP Setting

Functions	• To set DHCP for the network.
Use	• To use DHCP.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(6) Priority DNS Server

Functions	• To set the Priority DNS Server.
Use	• To enter Priority DNS Server.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(7) Substitute 1/2 DNS Server

Functions	• To set the Substitute DNS Server.
Use	• To enter the Substitute DNS Server.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(8) IP Filtering

Functions	• To set the IP Filtering.
Use	• To set whether to receive IP address within the specified range of the value.
Setting/ Procedure	<Permit Access> *1.* Select Enable or Disable on "Permit Access." *2.* Select range Set 1 to Set 5, and input address using the 10-Key Pad. *3.* Touch "OK" key. <Deny Access> *1.* Touch "Deny Access" key. *2.* Select Enable or Disable on "Deny Access." *3.* Select range Set 1 to Set 5, and enter address using the 10-Key Pad. *4.* Touch "OK" key.

(9) RAW Port No.

Functions	• To set the RAW port No.
Use	• To set the RAW port number for the printer.
Setting/ Procedure	*1.* Select the necessary port number. *2.* Select to use or not to use. *3.* When using the selected port, press the Clear key to clear the value, and enter the RAW port number using the 10-Key Pad. *4.* Touch "OK" key.

(10) DNS Host Name

Functions	• To set the DNS Host name.
Use	• To enter the DNS Host name.
Setting/ Procedure	*1.* Touch "DNS Host Name" key. *2.* Enter the DNS Host name on the screen key board, and touch "OK" key.

(11) DNS Domain Name

Functions	• To set the DNS Domain name.
Use	• To enter the DNS Domain name.
Setting/ Procedure	*1.* Touch "DNS Domain Name" key. *2.* Enter the DNS Domain name using the keyboard on the screen, and touch "OK" key.

B. NetWare Setting

(1) NetWare Setting

Functions	• To enable or disable the NetWare setting.
Use	• To use NetWare setting.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) Ethernet Frame Type

Functions	• To set the Ethernet Frame Type.
Use	• To specify the Frame type for transmission.
Setting/ Procedure	• The default setting is Auto Detect. "Auto Detect" 802.2 802.3 Ethernet II 802.2SNAP

(3) Operation Mode

Functions	• To set the Operation Mode.
Use	• To change the Operation Mode.
Setting/ Procedure	• The default setting is PServer. "PServer" Nprinter/Rprinter

(4) Status

Functions	• To display NetWare Status.
Use	• To check NetWare status.
Setting/ Procedure	*1.* Touch "Status" key. *2.* Touch UP/Down arrow keys to select the server to check. *3.* Check the NetWare status.

(5) Print Server Name/Print Server Password

Functions	• To set the Print server name and Print server password.
Use	• To enter the print server name or the print server password.
Setting/ Procedure	*1.* Touch "Print Server name" key or "Print Server Password" key. *2.* Enter the Print server name or the Print server password (up to 63 characters) using the on-screen keyboard, and touch "OK" key.

(6) Polling Interval

Functions	• To set the Polling interval.
Use	• To set the interval to search the print queue.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Polling interval between 1 and 65535 using the 10-Key Pad.

(7) NDS/Bindery Setting

Functions	• To set whether to enable or disable the Bindery setting when using NetWare4.X model and after.
Use	• To enable the Bindery service.
Setting/ Procedure	• The default setting is NDS. "NDS" NDS&Bindery

(8) File Server Name

Functions	• To set the File server name.
Use	• To set the Full server name for the print server to logon.
Setting/ Procedure	*1.* Touch “File Server Name” key. *2.* Enter the File server name (up to 47 characters) on the on-screen keyboard, and touch “OK” key.

(9) NDS Context Name

Functions	• To set the NDS Context name.
Use	• To set the NDS Context name.
Setting/ Procedure	*1.* Touch “NDS Context name” key. *2.* Enter the NDS Context name (up to 191 characters) on the on-screen keyboard, and touch “OK” key.

(10) NDS Tree Name

Functions	• To set the NDS Tree name.
Use	• To set the NDS Tree name.
Setting/ Procedure	*1.* Touch “NDS Tree Name” key. *2.* Enter the NDS Tree name (up to 63 characters) on the on-screen keyboard, and touch “OK” key.

(11) Printer Name

Functions	• To set the Printer Name.
Use	• To set the Printer Name.
Setting/ Procedure	*1.* Touch “Printer Name” key. *2.* Enter the Printer Name (up to 63 characters) on the on-screen keyboard, and touch “OK” key.

(12) Printer Number

Functions	• To set the Printer number.
Use	• To set the Printer number.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the number between 0 and 254 using the 10-Key Pad.

C. IPP Setting

(1) IPP Setting

Functions	• To set whether to enable or disable IPP setting.
Use	• To disable IPP setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(2) Accept IPP job

Functions	• To set whether to allow or restrict the IPP job.
Use	• To restrict the IPP job
Setting/ Procedure	• The default setting is ON. "ON" OFF

(3) Support Operation

Functions	• To set the Operation support information.
Use	• For the response setting to see if IPP transmission supports each function.
Setting/ Procedure	*1.* Touch "Support Operation" key. *2.* Set ON or OFF for each item.

(4) Printer Information

Functions	• To set the Printer information.
Use	• To set the Printer information.
Setting/ Procedure	*1.* Touch "Printer Information" key. *2.* Enter the Printer Name, Printer Location, and Printer Information on the on-screen keyboard. *3.* Touch "Print URI" key to check the Printer URI information.

D. FTP Setting

(1) Proxy Server Address

Functions	• To set the Proxy server address.
Use	• To enter the Proxy server address.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch "Host Address" key. *2.* Select "IP Address Input" to enter the IP Address. *3.* Select "Host Name Input" to enter the Host name.

(2) Proxy Port Number

Functions	• To set the Proxy server port number.
Use	• To enter the Proxy server port number.
Setting/ Procedure	• Press the Clear key. • Enter the Proxy server port number between 1 and 65535 using the 10-Key Pad.

(3) Port No.

Functions	• To set the Port number to be used for transmission with FTP server.
Use	• To enter the Port number to be used for transmission with FTP server.
Setting/ Procedure	*1.* Touch "Input" key. *2.* Press the Clear key. *3.* Enter the Proxy Server Port number between 1 and 65535 using the 10-Kay Pad.

(4) Connection Timeout

Functions	• To set the timeout period for connecting to FTP server.
Use	• To change the timeout period for connecting.
Setting/ Procedure	*1.* Touch “Input” key. *2.* Press the Clear key. *3.* Enter the connecting timeout period between 5 and 300 using the 10-Key Pad.

(5) FTP Client

Functions	• To set whether to use “Scan to FTP (FTP transmission)” or not.
Use	• Not to use “Scan to FTP (FTP transmission).”
Setting/ Procedure	• The default setting is ON. “ON” OFF

(6) FTP Server

Functions	• To set whether to use FTP server or not.
Use	• Not to use FTP server.
Setting/ Procedure	• The default setting is ON. “ON” OFF

E. SMB Setting

(1) Scan Setting

Functions	• To set whether to use SMB or not in Scan mode (Scan to PC).
Use	• Not to use SMB in Scan mode (Scan to PC).
Setting/ Procedure	• The default setting is ON. “ON” OFF

(2) Print Setting

Functions	• To set whether to use SMB port or not in Printer mode.
Use	• Not to use SMB port in Printer mode.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(3) NetBIOS Name

Functions	• To set NetBIOS name.
Use	• To set NetBIOS name.
Setting/ Procedure	*1.* Touch “NetBIOS Name” key. *2.* Enter the NetBIOS name (up to 15 characters) on the on-screen keyboard, and touch “OK” key.

(4) Print Service Name

Functions	• To set the Print service name.
Use	• To set the Print service name.
Setting/ Procedure	*1.* Touch “Print Service Name” key. *2.* Enter the Print Service name (up to 31 characters) on the on-screen keyboard, and touch “OK” key.

(5) Workgroup

Functions	• To set the Workgroup.
Use	• To set the Workgroup.
Setting/ Procedure	*1.* Touch “Workgroup” key. *2.* Enter the Workgroup (up to 15 characters) on the on-screen keyboard, and touch “OK” key.

F. AppleTalk Setting

(1) AppleTalk Setting

Functions	• To set whether to enable or disable the AppleTalk setting.
Use	• To use AppleTalk setting.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Printer Name

Functions	• To set the Printer name displayed on the AppleTalk network.
Use	• To set the Printer name displayed on the AppleTalk network.
Setting/ Procedure	*1.* Touch “Printer Name” key. *2.* Enter the Printer name (up to 31 characters) on the on-screen keyboard, and touch “OK” key.

(3) Zone Name

Functions	• To set the Zone name connected with AppleTalk network.
Use	• To set the Zone name connected with AppleTalk network.
Setting/ Procedure	*1.* Touch “Zone Name” key. *2.* Enter the Zone name (up to 31 characters) on the on-screen keyboard, and touch “OK” key.

(4) Current Zone

Functions	• To display the current zone on AppleTalk network.
Use	• To check the current zone on the AppleTalk network.

G. LDAP Setting

(1) Enabling LDAP

<LDAP Function>

Functions	• To set whether to enable or disable the LDAP function.
Use	• To use LDAP function.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Max. Search Results>

Functions	• To set the Max. results of address for LDAP search
Use	• To change the Max. results of address for LDAP search
Setting/ Procedure	*1.* Touch “Max. Search Results” key. *2.* Press the Clear key. *3.* Enter the Max. Search result numbers between 5 and 1000 using the 10-Key Pad.

<Timeout>

Functions	• To set the Max. timeout period for LDAP search.
Use	• To change the Max. timeout period for LDAP search.
Setting/ Procedure	*1.* Touch “Timeout” key. *2.* Press the Clear key. *3.* Enter the timeout period between 5 and 300 using the 10-Key Pad.

<Initial Setting for Search Details>

Functions	• To set the initial items for search conditions in LDAP detail search.
Use	• To set the initial items for search conditions in LDAP detail search.
Setting/ Procedure	*1.* Touch “Initial Setting for Search Details” key. *2.* Touch “Condition” key for each search item, and select the condition.

(2) Setting Up LDAP

<Server Address>

Functions	• To set the LDAP server address.
Use	• To enter LDAP server address.
Setting/ Procedure	• IP Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

<Search Base>

Functions	• To set the Directory Path for LDAP server.
Use	• To enter the Directory Path for LDAP server.
Setting/ Procedure	*1.* Touch “Search Base” key. *2.* Enter the Search Base (up to 255 characters) on the on-screen keyboard, and touch “OK” key.

<Enable SSL>

Functions	• To set whether to use SSL (data encryption) for connecting to LDAP server.
Use	• To use SSL (data encryption) for connecting to LDAP server.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Port No.>

Functions	• To set the LDAP server port number.
Use	• To enter the LDAP server port number.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-Kay Pad.

<General Settings>

Functions	• To set the authentication method to logon to LDAP server.
Use	• To change the authentication method to logon to LDAP server. anonymous : User name and password are not necessary Simple : Simple method which needs the user name and the password Digest-MD5 : Method available with normal LDAP server. When failing to authenticate with Digest-MD5, it automatically switches to CRAM-MD5. GSS-SPNEGO : Method available with Window's Active Directory (Kerberos authentication).
Setting/ Procedure	• The default setting is anonymous. "anonymous" Simple Digest-MD5 GSS-SPNEGO

<Login Name>

Functions	• To set the Logon name to connect to LDAP server.
Use	• To set the logon name to connect to LDAP server.
Setting/ Procedure	*1.* Touch "Login Name" key. *2.* Enter the logon name (up to 255 characters) on the on-screen keyboard, and touch "OK" key. **NOTE** • **The setting is not available when Authentication method is set to anonymous.**

<Password>

Functions	• To set the password for connecting to LDAP server.
Use	• To set the password for connecting to LDAP server.
Setting/ Procedure	• Touch "Password" key. • Enter the password (up to 63 characters) on the on-screen keyboard, and touch "OK" key. **NOTE** • **The setting is not available when Authentication method is set to anonymous.**

<Domain Name>

Functions	• To set the Domain Name for connecting to LDAP server.
Use	• To set the Domain Name for connecting to LDAP server.
Setting/ Procedure	*1.* Touch “Domain Name” key. *2.* Enter the domain name (up to 64 characters) on the on-screen keyboard, and touch “OK” key.

<Dynamic Authentication>

Functions	• To set whether to enable or disable the Dynamic Authentication.
Use	• To enable the Dynamic Authentication.
Setting/ Procedure	• The default setting is Disable. Enable “Disable”

<Reset All Settings>

Functions	• To return the contents registered in the LDAP server to what they were prior to the shipping.
Use	
Setting/ Procedure	*1.* Touch “Reset All Settings” key. *2.* Check the message and touch “Yes.”

H. E-Mail Setting

(1) E-Mail TX (SMTP)

<E-Mail TX Setting>

Functions	• To set whether to enable or disable the E-mail transmission setting.
Use	• To disable the E-mail transmission setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<SMTP Server Address>

Functions	• To set the SMTP server address.
Use	• To enter the SMTP server address.
Setting/ Procedure	• SMP Server Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch “Host Address” key. *2.* Select “IP Address Input”, and enter IP Address. *3.* Select “Host Name Input”, and enter the host name.

<Binary Division>

Functions	• To set whether to carry out Binary division for data to be transmitted
Use	• Not to carry out Binary division for data to be transmitted
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Divided Mail Size>

Functions	• To set the dividing size when carrying out the Binary division for data to be transmitted.
Use	• To change the dividing size of the data.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the dividing mail size between 100 and 15000 using the 10-Key Pad.

<Connection Timeout>

Functions	• To set the Timeout period for connection in transmitting e-mail to SMTP server.
Use	• To change the timeout period for connection in transmitting e-mail to SMTP server.
Setting/ Procedure	• Select the timeout period using +/- keys.

<Server Capacity>

Functions	• To set the Max. capacity per mail which SMTP server can receive.
Use	• To change the Max. capacity per mail which SMTP server can receive.
Setting/ Procedure	• The default setting is No Limit. "No Limit" (1 to 100)

<Detail Setting: Port No.>

Functions	• To set the Port number for transmission with SMTP server.
Use	• To enter the port number for transmission with SMTP server.
Setting/ Procedure	*1.* Touch "Input" key. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Key Pad.

<Detail Setting: Authentication Setting>

Functions	• To set the Authentication method to logon to SMTP server.
Use	• To change the Authentication method to logon to SMTP server.
Setting/ Procedure	• The default setting is OFF. "OFF" POP Before SMTP SMTP Authentication • When selecting SMTP Authentication, enter the User ID, the password, and the Domain name.

<Detail Setting: POP Before SMTP Time>

Functions	• To set the time necessary for POP Before SMTP Authentication.
Use	• To change the time necessary for POP Before SMTP Authentication.
Setting/ Procedure	*1.* Touch "Input" key. *2.* Press the Clear key. *3.* Enter the time for POP Before SMTP between 0 and 60 using the 10-Key Pad.

(2) E-Mail RX (POP)

<E-Mail RX Setting>

Functions	• To set whether to enable or disable the e-mail reception setting.
Use	• To disable the e-mail reception setting.
Setting/ Procedure	• The default setting is ON. "ON" OFF

<POP Server Address>

Functions	• To set the POP Server Address.
Use	• To enter the POP Server Address.
Setting/ Procedure	• SMTP Server Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch "Host Address" key. *2.* Select "IP Address Input", and enter the IP address. *3.* Select "Host Name Input" to enter the host name, and touch "OK" key. *4.* Enter the Login Name. *5.* Enter the password.

<Detail Setting: APOP Authentication>

Functions	• To set whether to use APOP Authentication
Use	• To use APOP Authentication
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Detail Setting: Port No.>

Functions	• To set the Port No. for transmitting with POP server.
Use	• To enter the Port No. for transmitting with POP server.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Port No. between 1 and 65535 using the 10-Key Pad.

<Detail Setting: Connection Timeout>

Functions	• To set the timeout period for connection in receiving e-mail to POP server.
Use	• To set the timeout period of connection in receiving e-mail to POP server.
Setting/ Procedure	• Select the timeout period of connection using +30/-30 keys.

I. Detail Setting

(1) Device Setting

<MAC Address>

Functions	• To display the MAC address of the machine.
Use	• To check the MAC address of the machine.
Setting/ Procedure	• The address cannot be changed.

<Network Speed>

Functions	• To set the Network speed.
Use	• To set the specific network speed.
Setting/ Procedure	• The default setting is Auto. "Auto" 10Mbps Full Duplex 10Mbps Half Duplex 100Mbps Full Duplex 100Mbps Half Duplex **NOTE** • **Make sure to turn the main power switch OFF and ON again after changing the network speed.**

(2) Time Adjustment Setting

<NTP Setting>

Functions	• To set whether to enable or disable the NTP setting.
Use	• To synchronize the time between the server and the client.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<NTP Server Address>

Functions	• To set the NTP server address.
Use	• To enter the NTP server address.
Setting/ Procedure	• IP Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch "Host Address" key. *2.* Select "IP Address Input", and enter the IP address. *3.* Select "Host name Input", and enter the host name.

<Port No.>

Functions	• To set the Port No. for transmitting with NTP server.
Use	• To enter the Port No. for transmitting with NTP server.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Port number between 1 and 65535 using the 10-Key Pad.

(3) Status Notification Setting

<Notification Address Setting>

Functions	• To set the e-mail address for notifying the machine condition.
Use	• To set the e-mail address for notifying the machine condition.
Setting/ Procedure	*1.* Touch "E-mail Address Edit" key. *2.* Enter the password (up to 320 characters) on the on-screen keyboard, and touch "OK" key.

<Notification Item Setting>

Functions	• To set the item for notifying the machine condition with e-mail.
Use	• To set the item for notifying the machine condition with e-mail.
Setting/ Procedure	*1.* Select the item to be notified and touch “ON” key. *2.* Touch “OK” key.

<Notification Time Setting>

Functions	• To set the time necessary for notifying the machine condition by e-mail.
Use	• To change the time necessary for notifying the machine condition by e-mail.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the time for notifying between 1 and 10 using the 10-Key Pad.

(4) PING Confirmation

Functions	• To set the TCP/IP network diagnosis by PING.
Use	• To check the condition of TCP/IP network.
Setting/ Procedure	*1.* Touch “Host Address” key for PING transmission. *2.* Select “IP Address Input” to enter IP address. *3.* Select “Host Name Input” to enter the host name. *4.* Touch “Check Connection” key to check the connection.

(5) PSWC Setting

Functions	• To set whether to use the PageScope Web Connection.
Use	• Not to use the PageScope Web Connection.
Setting/ Procedure	• The default setting is Enable. “Enable” Disable

(6) SLP Setting

Functions	• To set whether to use SLP or not.
Use	• Not to use SLP.
Setting/ Procedure	• The default setting is Enable. “Enable” Disable

(7) LPD Setting

Functions	• To set whether to use LPD during printing or not.
Use	• Not to use LPD during printing.
Setting/ Procedure	• The default setting is Enable. “Enable” Disable

(8) SNMP Setting

Functions	• To set whether to use SNMP or not.
Use	• Not to use SNMP.
Setting/ Procedure	• The default setting is ON. "ON" OFF Read Community name: Enter the Read Community name. Write Community Name: Enter the Write Community Name.

(9) Prefix/Suffix Setting

<ON/OFF Setting>

Functions	• To set whether to add Prefix or Suffix to the address when calling or entering an address.
Use	• To add Prefix or Suffix to the address.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Prefix/Suffix Setting>

Functions	• To register or change the Prefix or Suffix. • Eight types of Prefix and Suffix can be added. Prefix: Letters added to the top of the text (Header part) Suffix: Letters added to the bottom of the text (Footer part)
Use	• To register or change the address displayed for Prefix or Suffix.
Setting/ Procedure	• Prefix can be registered with up to 20 letters • Suffix can be registered with up to 64 letters

8.6.6 Copier Setting

A. Auto Zoom (Platen)

Functions	• To set whether to automatically set the Auto Zoom when the original is detected to be set on the original glass while the Paper Take-up Tray is selected (except APF).
Use	• To automatically set the Auto Zoom when the Paper Take-up Tray is selected.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

B. Auto Zoom (ADF)

Functions	• To set whether to automatically set the Auto Zoom when the original is detected to be set on ADF while the Paper Take-up Tray is selected (except APF).
Use	• To automatically set the Auto Zoom when the Paper Take-up Tray is selected.
Setting/ Procedure	• The default setting is ON. "ON" OFF

C. Select Tray when APS OFF

Functions	• To set the Tray to be used when APS is cancelled.
Use	• To set the Tray for the default setting when canceling APS.
Setting/ Procedure	• The default setting is Tray Before APS ON. "Tray Before APS ON" Default Tray

D. Select Tray for Insert Sheet

Functions	• To select the initial value for the Tray for the Cover sheet paper.
Use	
Setting/ Procedure	• The default setting is Tray 2.

E. Print Jobs During Copy Operation

Functions	• To set whether to receive printing jobs for Print data or Fax data during copy operation.
Use	• To restrict receiving printing jobs for Print data or Fax data during copy operation. Accept : Receives the Print data or Fax data and print Receive Only : Print data or Fax data will be printed when the copy operation is finished
Setting/ Procedure	• The default setting is Accept. "Accept" Receive Only

8.6.7 Printer Setting

A. Local I/F Timeout

Functions	• To set the timeout period for I/F transmission.
Use	• To make the timeout period longer according to the network condition.
Setting/ Procedure	• Settings have to be done separately for IEEE1284, USB, and Network. • The default settings are 60 sec. "60 sec" (10 to 1000)

B. Parallel I/F

Functions	• To set the two-way communication method for Parallel interface.
Use	• To change the two-way communication method for Parallel interface.
Setting/ Procedure	• The default setting is ECP. Compatible Nibble "ECP"

C. IEEE 1284/USB

Functions	• To set the interface to be used when mounting the local I/F kit.
Use	• To be used when using the Parallel interface.
Setting/ Procedure	• The default setting is USB. IEEE1284 "USB"

8.6.8 Fax Setting

- Settings are available only when the Optional FAX kit (FK-502) is mounted.

A. Header Information

Functions	• To register the name of the sender and Fax ID which will be printed when transmitting Fax.
Use	• To register or change the name of the sender and Fax ID
Setting/ Procedure	*1.* Touch “Sender Name” Key and enter the name of the sender (up to 30 characters) on the on-screen keyboard.

B. Header/Footer Position

(1) Header Position

Functions	• To set the position to print the header when transmitting Fax.
Use	• To change the position to print the Header
Setting/ Procedure	• The default setting is Outside Body Text. Inside Body Text “Outside Body Text” OFF

(2) Footer Position

Functions	• To set whether to print the Footer when transmitting Fax.
Use	• To print the Footer when transmitting Fax.
Setting/ Procedure	• The default setting is OFF. Inside Body Text Outside Body Text “OFF”

C. Telephone Line Settings

(1) Dialing Method

Functions	• To set the Dialing method.
Use	• To change the dialing method. • The displays are different depending on the country.
Setting/ Procedure	• The default setting is PB. “PB” 10 pps **NOTE** **• The displays are different depending on the country.**

(2) Receive Mode

Functions	• To set the Fax reception mode.
Use	• To change to manual reception when using the remote reception function, etc. when connected to the external telephone.
Setting/ Procedure	• The default setting is Auto RX. “Auto RX” Manual RX

(3) Number of RX Call Rings

Functions	• To set the number of times to receive call rings.
Use	• To change the number of times of the fake RingBack tone after it starts calling until it starts receiving.
Setting/ Procedure	• The default setting is 2 X. "2 X" (0 to 15)

(4) Number of Redials

Functions	• To set the number of redials.
Use	• To change the number of times to redial when the line is busy, etc. • The line which can be set up is different depending on the country.
Setting/ Procedure	• The default setting is 3 X. "3 X" (0 to 7) **NOTE** • **The line which can be set up is different depending on the country.**

(5) Redial Interval

Functions	• To set the interval for redialing.
Use	• To change the interval for redialing.
Setting/ Procedure	• The default setting is 3 min. "3 min" (1 to 15)

(6) Line Monitor Sound

Functions	• To set whether to output the Line monitor sound from the speaker or not.
Use	
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(7) Line Monitor Sound Volume

Functions	• To set the volume of the speaker.
Use	• To change the volume of the speaker.
Setting/ Procedure	• Change the volume by touching the "Lower" or "Higher" keys.

D. TX/RX Setting

(1) Duplex Print (RX)

Functions	• To set whether to carry out the Duplex print for the received original when receiving Fax.
Use	• To carry out the Duplex print for the received original.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) Print Paper Selection

Functions	• To set the priority for Paper Take-up Tray when receiving Fax.
Use	• To change the priority for Paper Take-up Tray when receiving Fax. Auto select : Selected automatically Priority Size : Printed on size with priority. When the size is not set, it will be printed on the closest Size. Fixed Size : Printed only on the fixed size.
Setting/ Procedure	• The default setting is Auto Select. "Auto Select" Fixed Size Priority Size

(3) Print Paper Size

Functions	• To set the paper size to print the text when receiving Fax.
Use	• To change the paper size for printing the received text. • The displays are different depending on the country. • To make the setting of "Print Paper Size" enable, set "Tray Selection for RX Print" to "Auto."
Setting/ Procedure	• The initial setting is A4. A3 B4 "A4" **NOTE** • **The displays are different depending on the country.**

(4) Incorrect User Box No. Entry

Functions	• To set the operation when the unregistered box number is entered.
Use	• To change the operation when the unregistered box number is entered.
Setting/ Procedure	• The default setting is Print. "Print" Show Error Message Auto Create User Box

(5) Tray Selection for RX Print

Functions	• To select the Paper Tray to be fixed when printing the received text.
Use	• To fix the Paper tray when printing the received text.
Setting/ Procedure	• The default setting is Auto. • Items available for selection are different depending on the Paper feed option mounted. "Auto" Tray 1 Tray 2 Tray 3 Tray 4

(6) Min. Reduction for RX Print

Functions	• To set the print magnification for received text.
Use	• To change the print magnification for received text.
Setting/ Procedure	• The default setting is 96. "96" (87 to 96)

(7) Print Separate Fax Pages

Functions	• To set whether to divide the original into pages when it is longer than the standard size.
Use	• To divide the original into pages when it is longer than the standard size.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(8) File After Polling TX

Functions	• To set whether to delete the original which Polling transmission has been completed.
Use	• For not deleting the original which polling transmission has been completed.
Setting/ Procedure	• The default setting is Delete. "Delete" Save

E. Function Setting

(1) Function ON/OFF Setting

<F Code TX>

Functions	• To set whether to use the F Code transmission.
Use	• To cancel the F Code transmission.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(2) Memory RX

Functions	• To set whether to use the forced memory RX function.
Use	• To store the received text in the hard disk without printing, and print it out when ordered.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • Enter the password (up to 8 digits) for printing when set to ON.

(3) Closed Network RX

Functions	• To set whether to use the closed network function.
Use	• To receive data only from the device which password matches.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to ON, enter the password (up to 4 digits) to be used.

(4) Forward TX Setting

Functions	• To set whether to use the Forward Fax function.
Use	• To forward the received text to the receiver which has been specified. Forward & Print : Forward the received text, and print all out Forward & Print (If TX Fails): Forward the received text, and prints out only when fails to be forwarded
Setting/ Procedure	• The default setting is OFF. "OFF" Forward & Print Forward & Print (If TX Fails) • When set to ON, set the address to forward to.

(5) Confidential RX Password Check

Functions	• To check the password set in the confidential box.
Use	
Setting/ Procedure	

(6) Fax RX Setting

Functions	• To set whether to use the PC-FAX reception function.
Use	• To store the received text file in the box in the hard disk.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to ON, specify the address to store the file.

(7) TSI User Box Setting

Functions	• To set whether to use TSI distribution or not.
Use	• To use TSI distribution.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to ON, set the reception box to receive data

F. PBX CN Set

Functions	• To set whether to use PBX connection setting or not.
Use	• This will be used when the machine is connected to PBX line.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to ON, enter the external number between 0 and 9999.

G. Report Settings

(1) Activity Report

Functions	• To set whether to print out the Activity Report or not, and also the timing for printing.
Use	• To print out the Activity Report.
Setting/ Procedure	• The default setting is OFF. "OFF" Daily Every 100 Comm. 100/ Daily

(2) TX Report

Functions	• To set whether to print out the TX Report, and also the timing for printing.
Use	• To print out the TX Report.
Setting/ Procedure	• The default setting is OFF. ON If TX Fails "OFF"

(3) Sequential TX Report

Functions	• To set whether to print out the Sequential TX Report or not.
Use	• To print out the Sequential TX Report.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(4) Timer Reservation TX Report

Functions	• To set whether to print out the reservation TX or not.
Use	• To print out the reservation TX.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(5) Confidential RX Report

Functions	• To set whether to print out the Confidential RX Report.
Use	• To print out the Confidential RX Report.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(6) Bulletin TX Report

Functions	• To set whether to print out the Bulletin TX Report or not.
Use	• To print out the Bulletin TX Report.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(7) Broadcast Result Report

Functions	• To set the format to output the Broadcast Result Report.
Use	• To print out the Broadcast Result Report All Dest. : Outputs all reports after transmitting to all addresses 1 Dest. at a time : Outputs a report after each transmission
Setting/ Procedure	• The default setting is All Dest. "All Dest." 1 Dest. at a time

(8) Paper Tray for Reports

Functions	• To set the Paper Take-up Tray to output reports.
Use	
Setting/ Procedure	• The default setting is Tray 2. • Items available to be selected are different depending on Paper feed option mounted. Bypass Tray Tray 1 "Tray 2" Tray 3 Tray 4

(9) TX Result Report Check

Functions	• To set whether to display the TX Result Report screen.
Use	• To display the TX Result Report screen.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

H. Job Settings List

Functions	• The set value list of the fax set up into this machine can be printed.
Use	
Setting/ Procedure	*1.* Touch "Administrator Setting" → "Fax Setting" → "Job Settings List" key. *2.* Select the Paper Take-up Tray and press the Start key.

8.6.9 System Connection

A. OpenAPI Setting

(1) Access Setting

Functions	• To allow or restrict the access from other systems with IS OpenAPI when using Page Scope Data Administrator.
Use	• To restrict access from other systems with IS OpenAPI.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

(2) Port No.

Functions	• To set the access port for other systems with IS OpenAPI when using Page Scope Data Administrator.
Use	• To change the access port number for other systems with IS OpenAPI.
Setting/ Procedure	*1.* Select Port No. or Port Number (SSL), and touch "Input" key. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Key Pad.

(3) SSL

Functions	• To set whether to encrypt access from other systems by SSL when using Page Scope Data Administrator.
Use	• To encrypt access by SSL from other systems using IS OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(4) Authentication

Functions	• To set whether to authenticate access of other systems which uses OpenAPI when using PageScope Data Administrator.
Use	• To set authentication of the access from other systems using OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When setting to ON, enter the Login Name and the Password to be set.

B. Admin. transmission

Functions	• To call the CS Remote Care Center from the Administrator, When the CS Remote Care setup is complete.
Use	
Setting/ Procedure	☞ For details, see page 247 "CS Remote Care."

8.6.10 Security Setting

A. Administrator Password

Functions	• To set/change the Administrator Password.
Use	• To change the Administrator Password.
Setting/ Procedure	• Enter the Administrator password on the on-screen keyboard. Current Password : Enter the current Administrator password New Password : Enter the new Administrator password to be used Re-Input Password : Reenter the new Administrator password **NOTE** • **When selecting Utility → "Administrator Setting" → "Security Setting" → "Security Details" leads to "Password Rules" being ON, the password with same characters and the same password with the one prior to change will not be changed.**

B. User Box Admin. Setting

Functions	• To set whether to allow or restrict the Box Administrator to use the system.
Use	• To allow the Box Administrator to use the system.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

C. Administrator Security Level

Functions	• To set the level for Administrator setting item open to the user.
Use	• To make part of the Administrator setting items open to the user. Level 1 : “Power Save Setting”, “Auto Magnification Selection (Platen)”, “Auto Magnification Selection (ADF)”, “Specify Default Tray when APS Off”, and “Select Tray for Insert Sheet” are available to users. Level 2 :“Power Save Setting”, “Output Setting”, “Date/Time Setting”, “Daylight Savings Time Setting”, “AE Level Adjustment”, “Auto Magnification Selection (Platen)”, “Auto Magnification Selection (ADF)”, “Specify Default Tray when APS Off”, “Select Tray for Insert Sheet”, and “Print Jobs During Copy Operation” are available to users. Prohibit : Not to allow the user to set neither Level 1 nor Level 2
Setting/ Procedure	• The default setting is Prohibit. Level 1 Level 2 “Prohibit”

D. Security Details

(1) Password Rules

Functions	• To set whether to apply the Password rules.
Use	• To apply the password rule to enhance security. • Passwords to be covered: Password for CE, Administrator, Box user authentication, Fax confidential print, Classified document, User authentication, and Box transmission • Details of the Password Rules: Password except User password, Box transmission password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) User password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) Box transmission password shall be 8 digits of one-bite alphanumeric characters. Password with only the same letter is prohibited. Password same with the one prior to change is prohibited. When the password rule is set to ON, the password cannot be changed or registered unless it follows the above conditions.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Manual Destination Input

Functions	• To set whether to allow or prohibit to manually enter the destination address on the Destination Input screen.
Use	• To prohibit entering the destination address manually.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

(3) Print Data Capture

Functions	• To set whether to allow or restrict capturing the Print Job Data.
Use	• To be used when carrying out Service Mode → System 2 → Data capture.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

E. HDD Setting

(1) Check HDD Capacity

Functions	• To display the used space capacity, total space capacity, and the remaining capacity of the hard disk.
Use	• To check the capacity and the status of use of the hard disk

(2) Delete Unused User Box

Functions	• To delete the unnecessary box without data.
Use	
Setting/ Procedure	*1.* Touch "Delete Unused User Box" key. *2.* Touch "Yes" key on the Check screen.

(3) Delete Secure Documents

Functions	• To delete the whole classified documents in the hard disk.
Use	
Setting/ Procedure	*1.* Touch "Delete Secure Documents" key. *2.* Touch "Yes" key on the Check screen.

(4) Overwrite All Data

Functions	• To delete the whole data in the hard disk by overwriting.
Use	
Setting/ Procedure	*1.* Touch "Overwrite All Data" key. *2.* Touch "Overwrite" key. *3.* Touch the "Yes" key on the Check screen.

(5) HDD Lock Password

Functions	• To set the Lock Password for the hard disk.
Use	• To enter the Lock Password for the hard disk.
Setting/ Procedure	*1.* Touch "HDD Lock Password" key. *2.* Enter the password (up to 20 on-byte characters) on the on-screen keyboard, and touch "OK" key. *3.* Reenter the password to confirm. *4.* Turn main power switch OFF and ON again.

9. Adjustment item list

Adjustment/Setting Items				No	Replace Paper Take-Up Roller	Replace Paper Separator Roll Assy	Change Paper (1st Drawer) Kind	Change Marketing Area	Install Paper Feed Unit	Replace CCD Unit	Replace Mirror Unit	Replace IU	Replace Image Transfer Belt Unit
Replacement Part/Service Job													
Service Mode	Machine	Printer Area	Print Positioning: Leading Edge	1			❍						
			Print Positioning: Side Edge	2					❍				
			Dup Print Positioning: Side	3									
			Paper Feed Direction Adj.	4						(3)	(3)		
		LPH Chip Adjust		5									
		LPH Rank (Changes to 1)		6									
		Scan Area	Image position: Leading Edge	7									
			Image position: Side Edge	8						(5)			
			Cross Direction Adjustment	9						(4)			
			Feed Direction Adjustment	10							(4)		
		Org. Detecting Sensor Adj.		11				❍					
	Touch Panel Adjust			12									
	State Confir-mation	Memory/ HDD Adjust	HDD R/W Check	13									
			HDD Format	14									
		Table Number		15									
	Firmware Version			16									
	System1, 2	Reentry of Setting Values		17									
		Serial Number		18									
		Scan calibration		19						(1)			
		Line Mag Setting		20						(2)			
	Counter	Life	Counter Clear	21	❍	❍							
	Image Process Adjustment		Gradation Adjust	22								❍	❍
Re-entry of Utility settings				23									
Re-entry of Enhanced Security settings				24									
Parallel adjustment of Scanner/Mirrors Carriage				25							(1)		
Positioning Exposure Unit				26							(2)		
Scanner Motor belt adjustment				27									
F/W upgrading				28									
Installation of Original Size Sensor				29									
Remounting of Parameter Chip (Control Board)				30									
Remounting of NVRAM (MFP Control Board)				31									
Replace Image Transfer Belt Unit				32									

✻ This table shows the adjustment items that are required when a part of the machine has been replaced. Priority order, if applicable, during the adjustment procedures is indicated by the corresponding number in the parentheses.

No	Replace Image Transfer Roller Unit	Replace Paper Dust Remover	Replace Original Size Detecting Sensor	Replace LPH Assy	Replace LPH Unit	Wind Scanner Drive Cables	Replace Scanner Motor	Replace Scanner Assy	Replace Scanner Home Sensor	Replace Control Board	Replace MFP Control Board	Replace Image Processing Board	Replace Original Glass	Replace IDC/Registration Sensor/1,2	Replace Hard Disk	Add Key Counter D-103	Execute Memory Clear	Execute Add. Option	Execute F/W update	Add FAX Board
1				(3)	(3)															
2				(4)	(4)															
3																				
4						(4)	(2)	(2)												
5				(2)	(2)															
6				(1)	(1)															
7													(2)							
8									❍				(1)							
9																				
10						(5)	(3)	(3)												
11			(3)																	
12																	(6)			
13															(2)					
14															(1)					
15			(2)														(2)			
16																		❍	❍	
17																	(4)			
18																	(3)			
19																				
20																				
21	❍	❍																		
22																				
23																	(1)			
24																❍	(5)			
25						(2)														
26						(3)		(1)												
27						(1)	(1)													
28										(2)	(2)	❍								❍
29			(1)																	
30										(1)										
31											(1)									
32														❍						

10. Service Mode

10.1 Service Mode function setting procedure

NOTE

- **Ensure appropriate security for Service mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

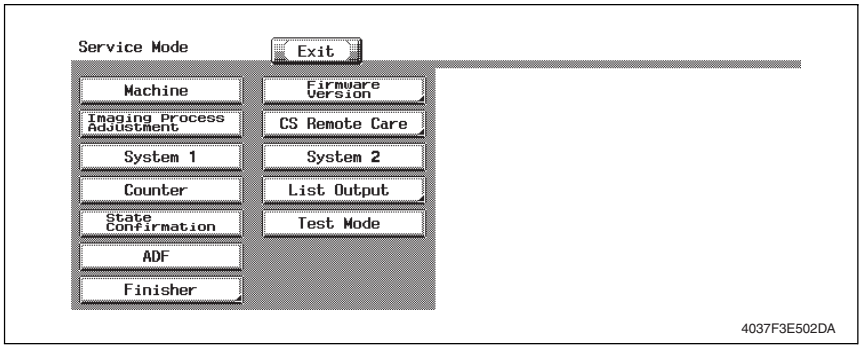
A. Procedure

1. Press the Utility/Counter key.
2. Touch "Details" on "Meter Count" display.
3. Press the following keys in this order.
   Stop → 0 → 0 → Stop → 0 → 1

NOTES

- **When selecting "CE Authentication" under "Enhanced Securiy" available from Service Mode, authentication by CE password is necessary. Enter the 8 digits CE password, and touch "OK" key. (The initial setting for CE password is "92729272.")**
- **If a wrong CE password is entered, re-enter the right password. The machine will not enter Service Mode unless the CE password is entered correctly. To return to the Basic screen, turn Main Power Switch OFF, and ON again.**
- **The service code entered is displayed as "*."**

4. The Service Mode menu will appear.



NOTE

- **Be sure to change the CE Password from its default value.**
- **For the procedure to change the CE Password, see the Enhanced Security.**

☞ 292

B. Exiting

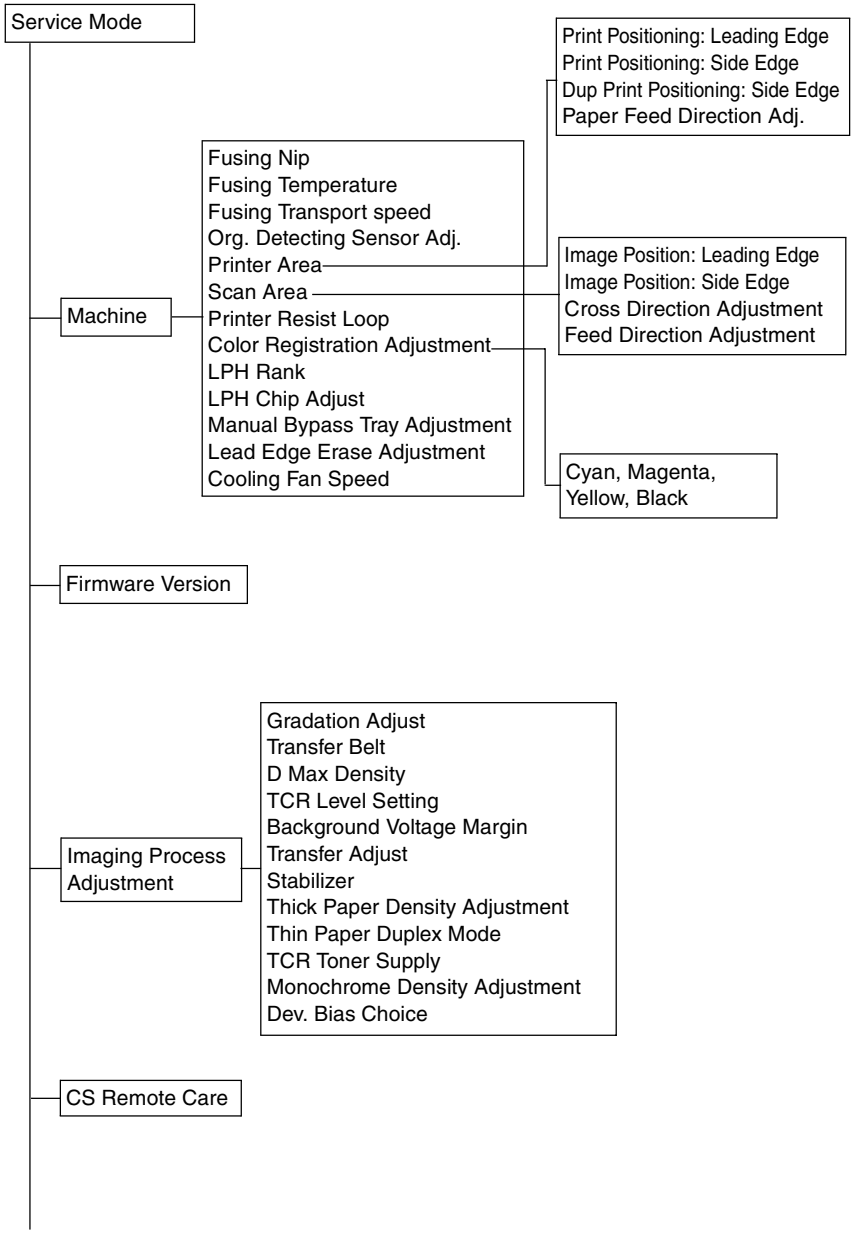
- Touch the "Exit" key.

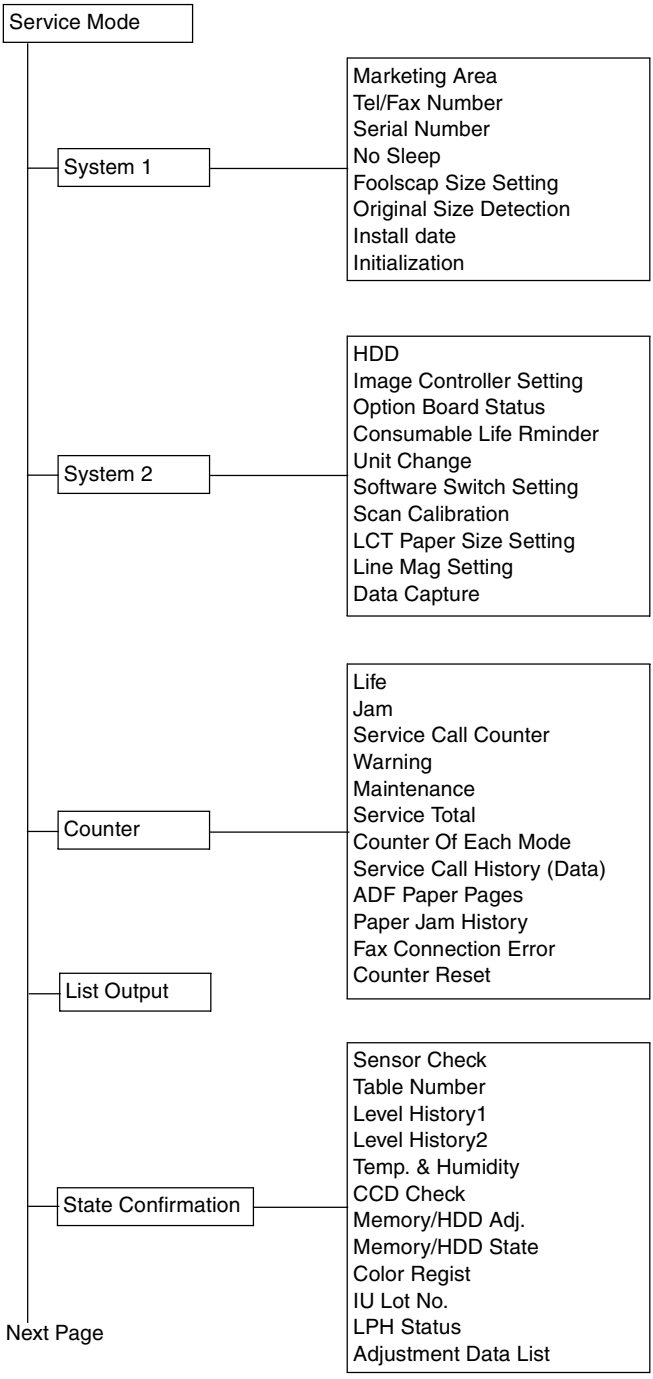
C. Changing the Setting Value in Service Mode Functions

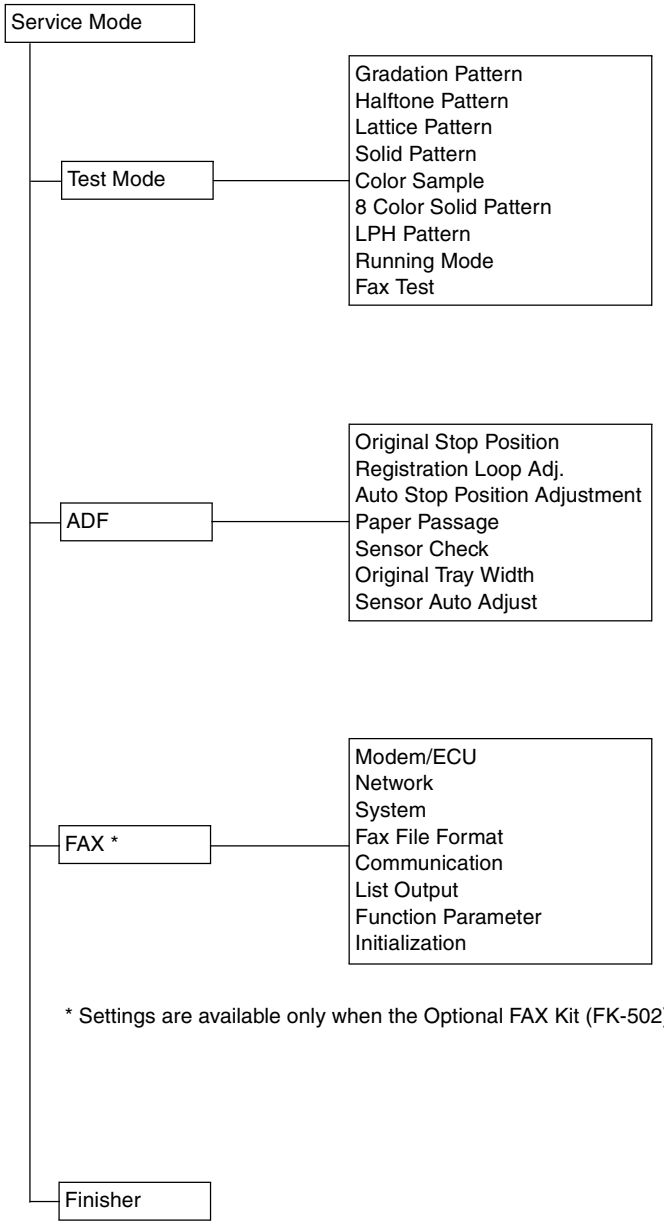
- Use the +/- key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

10.2 Service Mode function tree

* The function tree is shown to comply with the format displayed on the screen.




Service Mode
System 1
Marketing Area
Tel/Fax Number
Serial Number
No Sleep
Foolscap Size Setting
Original Size Detection
Install date
Initialization
System 2
HDD
Image Controller Setting
Option Board Status
Consumable Life Rminder
Unit Change
Software Switch Setting
Scan Calibration
LCT Paper Size Setting
Line Mag Setting
Data Capture
Counter
Life
Jam
Service Call Counter
Warning
Maintenance
Service Total
Counter Of Each Mode
Service Call History (Data)
ADF Paper Pages
Paper Jam History
Fax Connection Error
Counter Reset
List Output
State Confirmation
Sensor Check
Table Number
Level History1
Level History2
Temp. & Humidity
CCD Check
Memory/HDD Adj.
Memory/HDD State
Color Regist
IU Lot No.
LPH Status
Adjustment Data List
Next Page

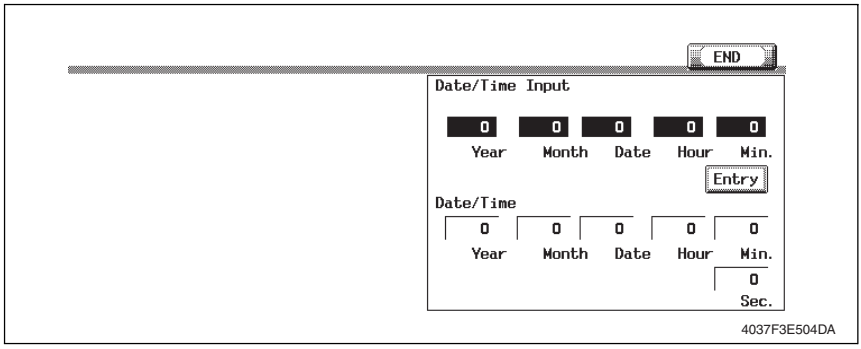


* Settings are available only when the Optional FAX Kit (FK-502) is mounted.

10.3 Date/Time Input mode

- This mode is used to set time-of-day and date.

10.3.1 Date/Time Input mode screen



A. Date/Time input mode setting procedure

<Procedure>

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 1 → 1 → 4 → 4 → Clear
3. Enter year, month, day, hour, and minute, in that order, from 10-key Pad.
   (Year 4 digits → Month 2 digits → Day 2 digits → Hour 2 digits → Minute 2 digits)

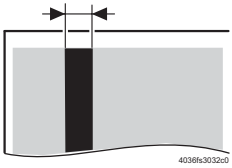
NOTE

- **When setting the month, day, hour, or minute, enter "0" first if the data one digit.**

4. Make sure that correct figures have been entered and then touch "Entry."
5. Touch "END" key to return to the Service Mode.

10.4 Machine

10.4.1 Fusing Nip

Functions	• To check the Fusing Roller nip width.
Use	• When a fusing failure occurs. • When a blurred image or brush effect occurs.
Check Range	A  A: 9 ± 0.5 mm.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Fusing Nip” *3.* Press the Start key to let the machine produce a test pattern. *4.* Check the fusing roller nip width.

10.4.2 Fusing Temperature

<table>
<tr><td>Functions</td><td>• To adjust individually the temperature of the Heating Roller and the Fusing Pressure Roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
* Though all temperatures shown on the screen are 0 °C, they represent the following specific temperatures.
<table>
<tr><th></th><th>Heating Roller</th><th>Pressure Roller</th></tr>
<tr><td>Plain paper</td><td>195 °C</td><td>145 °C</td></tr>
<tr><td>OHP film</td><td>190 °C</td><td>170 °C</td></tr>
<tr><td>Thick 1</td><td>175 °C</td><td>130 °C</td></tr>
<tr><td>Thick 2</td><td>185 °C</td><td>130 °C</td></tr>
<tr><td>Thick 3</td><td>185 °C</td><td>130 °C</td></tr>
<tr><td>Envelope</td><td>185 °C</td><td>130 °C</td></tr>
</table></td></tr>
<tr><td>Use</td><td>• When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.</td></tr>
<tr><td>Adjustment Range</td><td>Heating Roller : -10 °C to +5 °C (step: 5 °C)..... Plain paper
: -5 °C to +5 °C (step: 5 °C)..... Envelope
: -20 °C to +5 °C (step: 5 °C)..... others
Pressure Roller : -20 °C to +5 °C (step: 5 °C)..... OHP film
: -5 °C to +5 °C (step: 5 °C)..... others</td></tr>
<tr><td>Adjustment Instructions</td><td>If fusing performance is poor, increase the setting.
If wax streaks occur, decrease the setting.
If offset is poor, decrease the setting.</td></tr>
<tr><td>Adjustment Procedure</td><td>1. Call the Service Mode to the screen.
2. Touch these keys in this order: “Machine” → “Fusing Temperature.”
3. Select the paper type and Fusing Roller type.
4. Enter the new setting from the +/- key Pad.
5. The temperature does not change immediately when the setting is change. Wait a while before performing the subsequent steps.
• As a general rule, do not adjust the fusing temperature on the pressure application side.
6. Touch “END” to validate the adjustment value.
7. Check the copy image for any image problem.
8. Make the adjustment for each type of paper.</td></tr>
</table>

10.4.3 Fusing Transport Speed

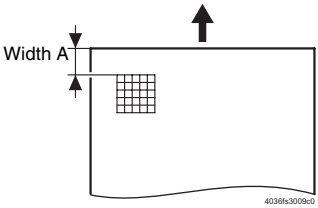
Functions	• To adjust the speed of the Fusing Drive Motor so as to match the fusing speed with transport speed.
Use	• Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.
Variable Range	-2 % to +2 % (in 0.1 % increments)
Adjustment Instructions	If brush effect is evident, vary the setting value and check for image. If a blurred image occurs, decrease the setting.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Machine" → "Fusing Transport Speed." *3.* Select the transport speed, at which the brush effect or blurred image has occurred. Transport speed / Paper Setting 215 mm/s: Plain paper: monochrome 165 mm/s: Plain paper: color 60 mm/s: Thick paper, OHP film, Envelope, Postcard, Labels: monochrome, color *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to validate the adjustment value. *6.* Check the copy image for any image problem. ✻ Make the adjustment for each paper type.

10.4.4 Org. Detecting Sensor Adj.

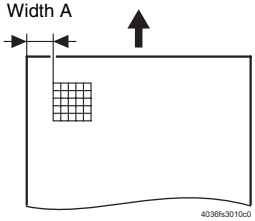
Functions	• To automatically adjust the original detection distance for the Original Size Sensor.
Use	• When the sensor is replaced with a new one. • When an optional sensor has been added. • When an erroneous original size detection is made. • When the marketing area setting is changed.
Adjustment Instructions	If the adjustment has been successfully made, it completes the adjustment procedure. If the adjustment has turned out to be unsuccessful, check the optional Original Size Sensors for correct installation and change the defective sensor or harness.
Adjustment Procedure	*1.* Place a blank sheet of A3 or 11 × 17 paper on the Original Glass and lower the Original Cover. *2.* Call the Service Mode to the screen. *3.* Touch these keys in this order: "Machine" → "Org. Detecting Sensor Adj." *4.* Press the Start key.

10.4.5 Printer Area

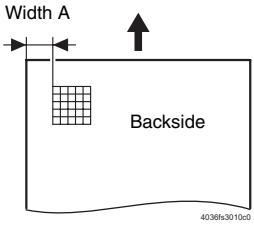
A. Print Positioning: Leading Edge

Functions	• To vary the print start position in the sub scan direction for each of different paper types in Tray 1.
Use	• The LPH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.0 to 7.0 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch “Machine” → “Printer Area” → “Print Positioning: Leading Edge.” *3.* Select the “Plain Paper.” *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “END.” *11.*Following the same procedure, adjust for Thick 1 to 3, OHP Film, and Env.

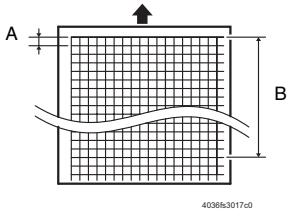
B. Print Positioning: Side Edge

Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The LPH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch “Machine” → “Printer Area” → “Print Positioning: Side Edge.” *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “END.” *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

C. Dup Print Positioning: Side Edge

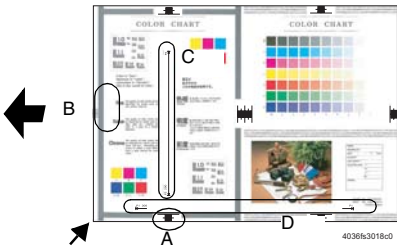
Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch “Machine” → “Printer Area” → “Dup Print Positioning: Side Edge.” *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch “END.” *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Manual Bypass Tray.)

D. Paper Feed Direction Adj.

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• Feed Direction Adjustment becomes necessary. • The image on the copy distorts (stretched, shrunk). • When the image on the copy is stretched in the sub scan direction.
Adjustment Specification	 Width A and width B on the test pattern produced should fall within the following ranges. Width A: equivalent to one grid Width B: equivalent to 48 grids Specifications A: 7.9 to 8.3 B: 389.1 to 392.1 Setting Range A, B: -10 to +10
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Load Tray 1 with A3 or 11 × 17 plain paper. *2.* Call the Service Mode to the screen. *3.* Touch these keys in this order: “Test Mode” → “Lattice Pattern.” *4.* Select “Black,” “SINGLE,” “FEET,” “CD Width:6,” “FD Width:6,” “Density:255,” and “Normal.” *5.* Press the Start key to let the machine produce a test pattern. *6.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *7.* Touch these keys in this order: “Machine” → “Printer Area” → “Paper Feed Direction Adj.” *8.* If width of A or B falls outside the specified range, change the setting using the Up/Down keys. *9.* Press the Start key to let the machine produce a test pattern. *10.*Check width A and width B on the test pattern. *11.*If width A or B falls outside the specified range, change the setting value and make a check again. *12.*If width A or B falls within the specified range, touch “END.” *13.*Following the same procedure, adjust for “Thick 1 to 3,” “OHP Film,” and “Env.” (Check width A only for “OHP Film” and “Env.”)

10.4.6 Scan Area

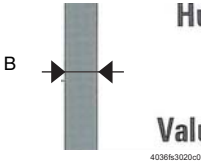
- Use the following Color Chart for the adjustment of the Scanner Section.
- If the Color Chart is not available, a scale may be used instead.



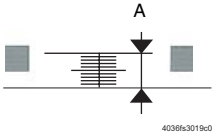
Original Reference

- A: Image Position: Side Edge
- B: Image Position: Leading Edge
- C: Cross Direction Adjustment
- D: Feed Direction Adjustment

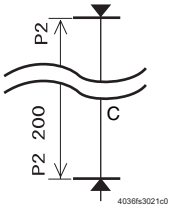
A. Image Position: Leading Edge

Functions	• To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the main scan direction.
Use	When the Original Glass is replaced. When the Original Width Scale is replaced.
Adjustment Specification	 •Adjust so that width B on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Print Positioning: Leading Edge” of Printer Area. Specifications B: 7 ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting Range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If width B on the copy is less than 6.5 mm, increase the setting value. If width B on the copy is more than 7.5 mm, decrease the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Scan Area” → “Image Position: Leading Edge.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If width B on the copy falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

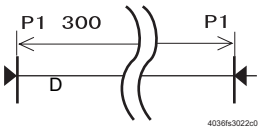
B. Image Position: Side Edge

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD Unit is replaced. • When the Original Glass is replaced. • The Scanner Home Sensor has been replaced.
Adjustment Specification	 •Adjust so that width A on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Print Positioning: Side Edge” of Printer Area. Specifications A: 10 ± 1.0 mm Setting Range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the 0-mm position on the sample copy is on the right side of the correct 0-mm position perpendicularly to the feeding direction (less than -1 mm), decrease the setting. If the 0-mm position on the sample copy is on the left side of the correct 0-mm position perpendicularly to the feeding direction (exceeding 1 mm), increase the setting.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Scan Area” → “Image Position: Side Edge.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make a copy. *8.* Check point A of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

C. Cross Direction Adjustment

Functions	• To adjust the zoom ratio in the main scan direction for the Scanner Section
Use	• The CCD Unit has been replaced.
Adjustment Specification	 •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of Printer Area. Specifications C: ± 1.0 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Scan Area” → “Cross Direction Adjustment.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

D. Feed Direction Adjustment

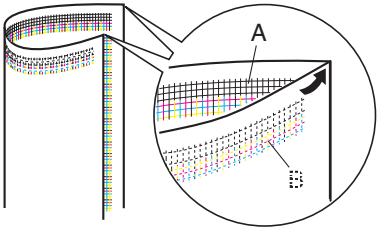
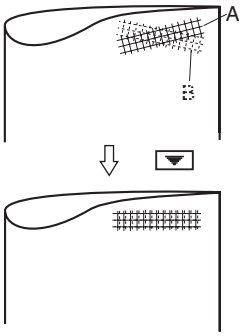
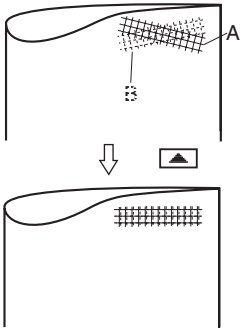
Functions	• To adjust the zoom ratio in the sub scan direction for the Scanner Section
Use	• The Scanner Assy has been replaced. • The Scanner Motor has been replaced. • The Scanner Drive Cables have been replaced.
Adjustment Specification	 •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of Printer Area. Specifications D: ± 1.5 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Scan Area” → “Feed Direction Adjustment.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the +/- key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

10.4.7 Printer Resist Loop

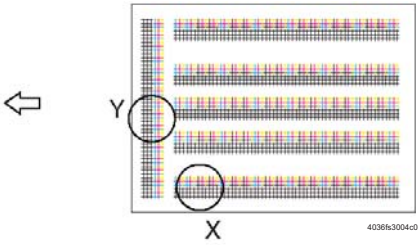
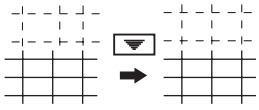
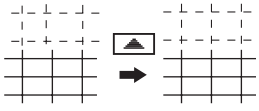
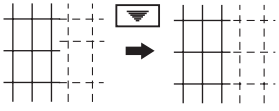
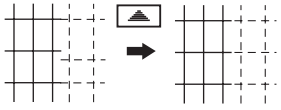
Functions	• To set the correction value of the paper loop length for each process speed of Tray 1 to Tray 4, Bypass, and Duplex. • To adjust the length of the loop formed in paper before the Registration Rollers. • Use “Paper Passage” for paper passage check.
Use	When a paper skew occurs. When a paper misfeed occurs.
Adjustment Range	Different setting ranges are set for different transport speeds. 215 mm/s : -6 to +6 165 mm/s : -10 to +10 60 mm/s : -15 to +15
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Machine” → “Printer Resist Loop.” *3.* Select the transport speed. *4.* Enter the new setting from the 10-Key Pad.

10.4.8 Color Registration Adjustment

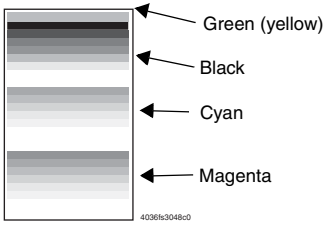
A. Black

Functions	• To correct black color shift, if it occurs with plain or thick paper. • Make Color Registration Adjustment (cyan, magenta, and yellow) after this adjustment has been made.
Use	• To correct black color shift, if it occurs • The LPH Assy (K) has been replaced.
Adjustment Range	"0" (-10 to +10 dot)
Adjustment Instructions	If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Machine" → "Color Registration Adjustment." *3.* Load Tray 1 with A3 or A4 paper (plain or thick). *4.* Press the Start key. *5.* Fold the printed test pattern in half lengthwise to check for deviation (the image on the inside). *6.* Check deviation between black lines A and B. *7.* Select the paper type. *8.* Select black. *9.* Change the setting value using the +/- key as necessary. *10.*Produce another test pattern and check for deviation. Check Procedure Check point A, B  4036fs3001c0 If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value. Direction of C  4036fs3002c0 Direction of D  4036fs3003c0

B. Cyan, Magenta, Yellow

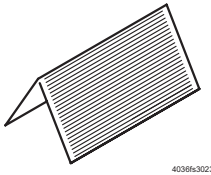
Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper. • Before making this adjustment, be sure to perform Color Registration Adjustment (Black).
Use	• To correct any color shift
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Machine" → "Color Registration Adjustment." *3.* Load Tray 1 with A3 or A4 paper (plain or thick). *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the paper type. *7.* Select the color to be adjusted. *8.* Using the +/- key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *9.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D   Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D  

10.4.9 LPH Rank

Functions	• To correct uneven LPH image by producing an output of the LPH Pattern of Test Print
Use	• When an uneven image occurs and is not eliminated even after other troubleshooting procedures have been carried out. • When the LPH Unit has been replaced • When the LPH Assy has been replaced
Adjustment Range	"1" (1 to 5) * 0 is not used.
Adjustment Procedure	*1.* Load Tray 1 with A3 plain paper. *2.* Call the Service Mode to the screen. *3.* Touch "Machine" → "LPH Rank." *4.* Return the Rank settings for all four colors back to "1." *5.* Press the Start key to let the machine produce a test pattern. LPH Pattern  *6.* Identify the spot, at which uneven image occurs. *7.* Select the color (Cyan, Magenta, Yellow, Black) that develops uneven image. ✻ Select Yellow if green on the test pattern develops uneven image. *8.* Using the 10-Key Pad, enter a value of the Rank value shown on the screen plus one. ✻ If Rank is "1," enter 2. ✻ If "0" is set for Rank, set "1." Do not use "0." *9.* Let the machine produce another test pattern and check for uneven image. *10.*Repeat steps 1 through 8 until the uneven image is gone.

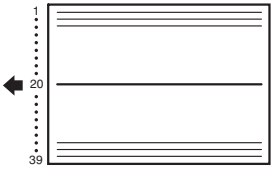
10.4.10 LPH Chip Adjust

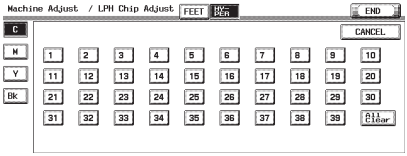
Functions	• To correct chips of locations where sub scan direction white lines or black lines occur in the LPH Pattern produced using “Test Print.”
Use	• White line or color line or black line occurs in the sub scan direction. • The LPH Assy has been replaced. • The LPH Unit has been replaced.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Test Mode” → “LPH Pattern.” *3.* Select “SINGLE,” “HYPER,” “Gradation,” and “Border Line: ON.” *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the test pattern for the location, at which white lines or color or black lines in sub scan direction occur. *6.* Touch these keys in this order: “Machine” → “LPH Chip Adjust.”



7. Fold the test pattern in half.
(with the pattern face on the outside)

8. The chip boundary line on the crease (the center) of the test pattern corresponds to “20” on the panel. Starting here count out to each side of the paper to identify each location





4037F3E513DA

9. Find the number on the panel, to which the location of white lines or black lines in sub scan direction checked in step 5 corresponds.
*10.*Select the color (C, M, Y, or K) in which white lines or black lines in sub scan direction occur.
✻ If the lines occur only in green on the test pattern, select Y.

*11.*Touch the corresponding number on the panel. (It is then highlighted and the setting value is displayed besides the highlighted number.)
*12.*Change the setting value using the 10-Key Pad.
✻ When a new LPH Unit has been installed, corrections can be made for up to eight locations.
✻ Corrections for up to five locations can be made through factory adjustments. If white lines or black lines in sub scan direction occur, therefore, corrections can therefore be made in the field for three to eight locations.

*13.*Select HYPER and color.
*14.*Press the Start key to let the machine produce a test pattern and check for lines.

10.4.11 Manual Bypass Tray Adjustment

Functions	• To set the maximum width and the minimum width for the Manual Bypass Paper Size Unit of the Manual Bypass Guide
Use	• Use when the Manual Bypass Paper Size Unit of the Manual Bypass Guide has been changed. • Use when a false paper size is displayed when the manual Bypass is used.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Machine" → "Manual Bypass Tray Adjustment" *3.* Touch "Max. Width." *4.* Load the Bypass Tray with paper having a width of 301 mm. *5.* Press the Start key and check that the results are OK. *6.* Touch "Min. Width." *7.* Load the Bypass Tray with paper having a width of 89 mm. *8.* Press the Start key and check that the results are OK. ✻ Make the adjustment again if the results are NG.

10.4.12 Lead Edge Erase Adjustment

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper
Setting/ Procedure	• The default setting is 4 mm. "4 mm" 5 mm 7 mm

10.4.13 Cooling Fan Speed

Functions	• To set the Cooling Fan Speed.
Use	• Use when operating the Paper Cooling Fan Motor at full speed regardless of the paper type. Mode1: When the system speed is 60 mm/s (using the gloss paper or paper type other than plain paper), rotate the fan at half speed. When the system speed is 215 mm/sec or 165 mm/sec, rotate the fan at full peed. Mode2: The fan will be operated at full speed regardless of the system speed.
Setting/ Procedure	• The default setting is Mode1. "Mode1" Mode2

10.5 Firmware Version

Functions	• To check the Firmware version.
Use	• Use when the firmware is upgraded. • When the firmware is upgraded or PWB is replaced.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch "Firmware Version." *3.* Select the appropriate key from 1 to 3 to check the Firmware Version.

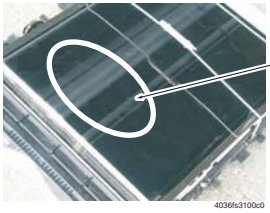
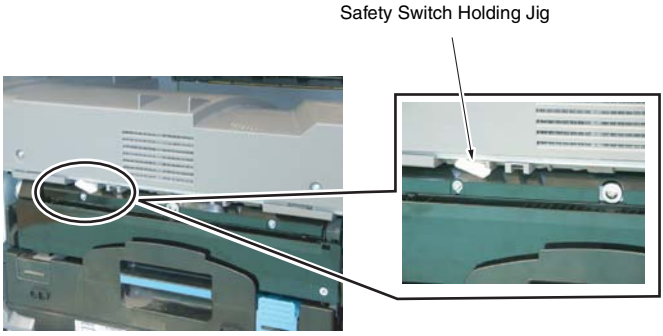
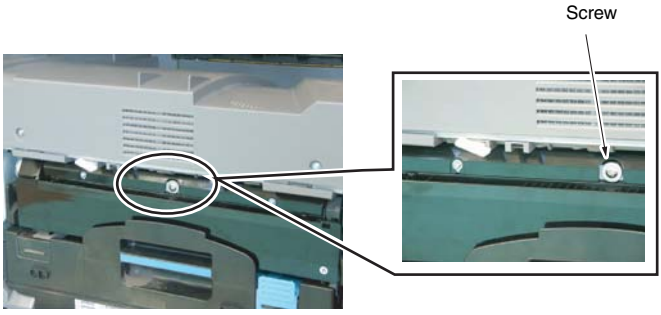
10.6 Imaging Process Adjustment

10.6.1 Gradation Adjust

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image. • Gradation Mode : It gives the highest priority to gradation performance of the image as it adjusts. • Resolution Mode : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • High Compression Mode : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Max : 0 ± 100 Highlight : 0 ± 60
Adjustment Procedure	*1.* Touch “Gradation Adjust.” *2.* Select the appropriate mode for the gradation adjustment. *3.* Press the Start key to let the machine produce a test pattern. *4.* Place the test pattern produced on the Original Glass. *5.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *6.* Press the Start key. (The machine will then start scanning the test pattern.) *7.* Touch “OK” and repeat steps from 2 through 6 twice (a total of three times). *8.* Touch “Gradation Adjust” to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Max and Highlight. *9.* Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Main Power Switch and perform Gradation Adjust once again. • If either Max or Highlight still remains outside the specified ranges perform D Max Density. • If a total of four sequences of Gradation Adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

10.6.2 Transfer Belt

A. Refresh

Functions	• To turn the Transfer Belt idly
Use	• To refresh the surface of the Transfer Belt when filming occurs on the Transfer Belt. 
Setting/ Procedure	*1.* From the Service mode, enter the Transfer Belt Refresh mode. *2.* Open the Left Door and, using the Safety Switch Holding Jig, turn ON the Left Door Switch.  *3.* Wait until predrive is completed. *4.* Loosen one screw completely and press the Belt Refresh Pad up against the Transfer Belt.  *5.* Press the Start key. *6.* After about 5 min., the Transfer Belt refresh sequence will be completed. *7.* Remove the Safety Switch Holding Jig. *8.* Tighten one screw and retract the Belt Refresh Pad from the Transfer Belt.

10.6.3 Cleaning Bias

Functions	• To set the strength of the Transfer Belt cleaning bias
Use	• When the image pattern is not completely removed, it strengthen the Transfer Belt cleaning bias in order to make the cleaner more effective. Print : To set the cleaning bias value for printing. Not Print : To set the cleaning bias value in situations such as being recovered from the paper jam, carrying out the image stabilization, or cleaning the 2nd image transfer roller. • The strength of the bias increases as changing the mode as follows. Mode1 → Mode2 → Mode3 → Mode4
Setting/ Procedure	<Print> • The default setting is Mode1. “Mode1” Mode2 Mode3 Mode4 <Not Print> • The default setting is Mode1. “Mode1” Mode2 Mode3 Mode4

10.6.4 Auto Cleaning

Functions	• To carry out a 1-min. cleaning sequence for every 1,000 printed pages (sub scan direction: 216 mm or less) after the power has been turned ON
Use	• To select “Disable” for Transfer Belt Auto Cleaning if the wait time of 1-min. cleaning sequence is to be eliminated
Setting/ Procedure	• The default setting is Enable. “Enable” Disable

10.6.5 IDC Table Revice

Functions	• To set the upper limit value of Vdc during the execution of the image stabilization sequence, thereby preventing part of the Photo Conductor surface from being left uncleaned due to filming
Use	• To select “Disable” for IDC Table Correction if a higher density image is desired
Setting/ Procedure	• The default setting is Enable. “Enable” Disable • Enable: Sets the upper limit value for Vdc • Disable: Does not set the upper limit value for Vdc

10.6.6 D Max Density

Functions	• To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma of each color after Gradation Adjust.
Use	• An image quality problem is not corrected even after Gradation Adjust has been run.
Adjustment Range	"0" (-10 to +10)
Adjustment Instructions	To increase the maximum amount of toner sticking, increase the setting value. To decrease the maximum amount of toner sticking, decrease the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Imaging Process Adjustment" → "D Max Density." *3.* Select "COPY" or "Printer." *4.* Select the color to be adjusted. *5.* Enter the new setting from the 10-Key Pad. *6.* Touch "END" to return to the "Process" menu screen. *7.* Touch "Stabilizer." *8.* Touch "Stabilizer Mode." *9.* Press the Start key to validate the adjustment value. *10.*Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.7 TCR Level Setting

Functions	• To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change.
Use	• Use when T/C changes due to changes in environmental conditions of the user site
Adjustment Range	"0" (-3 to +3) The central value of 0 corresponds to 7 % of T/C (in 1.0 % increments).
Adjustment Instructions	To increase T/C, increase the setting value. To decrease T/C, decrease the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Process" → "TCR Level Setting." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to validate the adjustment value. *6.* Check the copy image for any image problem.

10.6.8 Background Voltage Margin

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after Gradation Adjust.
Use	• Use when a foggy background occurs due to a printer problem
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	To make the background level foggier, increase the setting value. To make the background level less foggy, decrease the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Imaging Process Adjustment" → "Background Voltage Margin." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to return to the "Image Adjust" menu screen. *6.* Touch "Stabilizer." *7.* Touch "Stabilization Only." *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.9 Transfer Adjust

A. 2nd Transfer Adjust

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), decrease the setting value. To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Imaging Process Adjustment" → "Transfer Adjust." *3.* Select the side of the image (First side or Second side), on which the transfer failure at the trailing edge occurs. *4.* Select the paper type with the transfer failure at the trailing edge. *5.* Enter the new setting from the 10-Key Pad. *6.* Touch "END" to validate the adjustment value. *7.* Check the copy image for any image problem.

B. 1st Transfer Adjust

Functions	• Adjust the output value for the 1st image transfer voltage.
Use	• To use when white spots appeared.
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	Adjust the output value for the 1st image transfer voltage by; Increasing it: Increase the setting value (white spots will decrease) Decreasing it: Decrease the setting value
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Select "Test Mode" → "Halftone Pattern" to output the red or green test pattern. ☞ 288 *3.* When the test pattern image has white spots, adjust with the following procedure. *4.* Touch these keys in this order: "Imaging Process Adjustment" → "Transfer Adjust." *5.* Select color/black. *6.* Change the setting value using the 10-Key Pad. *7.* Touch "OK" key to set the adjustment value. Gradually increase the adjustment value to the acceptable white spots level while checking the test pattern. **NOTE** **• PC Drum memory (94mm pitch) may occur by taking measure to white spots occurred by increasing the 1st image transfer voltage to adjust it. Check the image on the test print or the color chart when adjusting.** **• The value for the 1st image transfer adjustment will be reset when the new transfer belt unit is detected. The value will be 0.**

10.6.10 Stabilizer

A. Stabilization Only

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When D Max Density and Background Voltage Margin of Service mode are changed.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Imaging Process Adjustment" → "Stabilization Only." *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

B. Initialize+Image Stabilization

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Stabilizer Mode has been executed.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "Imaging Process Adjustment" → "Initialize+Image Stabilization." *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

10.6.11 Thick Paper Density Adjustment

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies.
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	• The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level.
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Imaging Process Adjustment” → “Thick Paper Density Adjustment.” *3.* Touch the Lighter or Darker key for the desired color to correct the image density.

10.6.12 Thin Paper Duplex Mode

Functions	• Turn this function ON when thin paper (64 g/m^2) is used in an ambience of high temperature and high humidity in the 2-sided mode. • It decreases the transfer output value so as to prevent a paper misfeed from occurring.
Use	• Use when a paper misfeed occurs when thin paper is used.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.6.13 TCR Toner Supply

Functions	• To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of copies have been made of originals having a high image density.
Use	• When there is a drop in T/C.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Imaging Process Adjustment” → “TCR Toner Supply.” *3.* Select the color, for which supply of toner is to be replenished. *4.* Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. *5.* These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.

10.6.14 Monochrome Density Adjustment

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), “Std”, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Imaging Process Adjustment” → “Monochrome Density Adjustment.” *3.* Touch the Lighter or Darker key as necessary to correct the image density.

10.6.15 Dev. Bias Choice

Functions	• To change the setting of the developing bias voltage • When this function is turned ON, it decreases the developing bias voltage, thereby preventing voltage leak from occurring.
Use	• Use when patches of white occur in the image in an ambience of low atmospheric pressure, such as in high altitudes.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.7 CS Remote Care

10.7.1 Outlines

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone line in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  a. Data which show the status of use of the machine such as Total count, PM count.
  b. Data which show the abnormal situation on the machine such as where and how often errors occur.
  c. Data on adjustment
  d. Data on setting

10.7.2 Setting Up the CS Remote Care

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**

☞ For clearing the RAM, see 256.

- **When using the telephone line for connection, use the recommended modem. (For recommended modem, contact responsible person of KONICA MINOLTA.)**

Step	Procedure
0	Register the device ID to the application at CS Remote Care Center. The initial connection is not available unless the device ID is registered.
1	Connecting the modem Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the wall jack with a modular cable. * For connecting the modular cable, see the manual for the modem.
2	Clearing the RAM *1.* Select Service Mode → CS Remove Care, and touch “Detail Setting” key. *2.* Touch “RAM Clear” key. *3.* Select Set, and touch “OK.” ☞ 256 **NOTE** • **When Detail Setting key is not displayed, skip this step and proceed to Step 3.**
3	Selecting the CS Remote Care function Select Service Mode → CS Remove Care → System Selection, and touch “Modem” key.
4	Inputting the ID Code *1.* Select Service Mode → CS Remote Care → ID Code, and touch “ID Code” key. *2.* Input the seven digits ID of the service person, and touch “ID Code” key again. ☞ 255
5	Setting the date and time for CS Remote Care *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch “Date & Time Setting” key. *3.* Input the date, time and the time zone using the 10-Key Pad, and touch “Set” key. ☞ 256
6	Setting the Center ID *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch Machine Setting → Center ID, and input the Center ID (five digits). ☞ 256

Step	Procedure
7	Setting the Device ID *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch Machine Setting → Device ID, and input Device ID (nine digits). ☞ 256
8	Setting the telephone number of the Center *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch Machine Setting → Center Telephone Number key. *3.* Input the telephone number of the Center using the 10-Keys Pad and P, T, W, - keys. ☞ 256
9	Inputting the Device telephone number *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch Machine Setting → Device Telephone Number key. *3.* Input the Device telephone number using the 10-Key Pad and P, T, W, - keys. ☞ 256
10	Inputting the AT command for initializing the modem *1.* Select Service Mode → CS Remote Care → and touch “Detail Setting” key. *2.* Touch “AT Command” key. *3.* Input AT Command. **NOTE** • **Change this Command only when it is necessary. (They do not need to be changed in normal condition.)** • **For details on AT Command, see the manual for the modem.** ☞ 257
11	Setting the DIPSW for CS Remote Care **NOTE** • **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**
12	Executing the initial transmission *1.* Select Service Mode → CS Remote Care, and touch “Detail Setting” key. *2.* Touch “initial transmission” key on the right bottom of the screen to start initial transmission. *3.* When the machine is properly connected with the Center, CS Remote Care setting screen will be displayed. **NOTE** • **The initial transmission key at the right bottom of the screen will be displayed only when the Center ID, the Device ID, Telephone number of the Center and the Device telephone number have been input.** ☞ 255

10.7.3 Software SW setting for CS Remote Care

NOTE

- **SW bits data are written into the NVRAM every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**

A. Input procedure

1. Select Service Mode → "CS Remote Care" → "Detail Setting", and touch "Software Switch Setting" key.
2. Touch "Switch No." key, and input the SW number (two digits) using the 10-Key Pad.
3. Touch "Bit Assignment", and select SW bit number using the arrow keys, and input 0 or 1 using the 10-Key Pad.
   (For setting by hexadecimal numbers, touch "HEX Assignment" key, and input using the 1-Key Pad or A to F keys.)
4. Touch "Fix" key.

NOTE

- **About functions of each switch, see to "B.List of software SW for CS Remote Care."**

B. List of software SW for CS Remote Care

NOTE

- **Do not change any bit not described on this table.**

SW No.	Bit	Functions	0	1	Default
SW 01	0	Dial Mode	Pulse	Tone	1
	1	Line for send only	No	Yes	0
	2	Reservation	—	—	0
	3	Reservation	—	—	0
	4	Baud rate	*1	*1	0
	5		*1	*1	0
	6		*1	*1	0
	7		*1	*1	1
SW 02	0	Auto call on SC occurrence	Do not call	Call	1
	1	Auto call on date specification	Do not call	Call	1
	2	Auto call on the part replacement	Do not call	Call	1
	3	Auto call on the drum replacement	Do not call	Call	1
	4	Auto call on the periodic maintenance (PM)	Do not call	Call	1
	5	Auto call on the IU Life	Do not call	Call	1
	6	Auto call of the IR shortage	Do not call	Call	1
	7	Auto call on the zero reset of the fixed parts replacement.	Do not call	Call	1
SW 03	0	Reservation	—	—	0
	1	Auto call on the toner supply	Do not call	Call	1
	2	Reservation	—	—	0
	3	Auto call on the waste toner bottle full	Do not call	Call	1
	4 to 7	Reservation	—	—	0
SW 04	0 to 7	Reservation	—	—	0

SW No.	Bit	Functions	0	1	Default
SW 05	0	Modem redial interval	*2	*2	1
	1		*2	*2	1
	2		*2	*2	0
	3		*2	*2	0
	4 to 7	Reservation	—	—	0
SW 06	0	Modem redial times	*3	*3	0
	1		*3	*3	1
	2		*3	*3	0
	3		*3	*3	1
	4		*3	*3	0
	5		*3	*3	0
	6		*3	*3	0
	7	Reservation	—	—	0
SW 07	0	Redial for response time out	Do not redial	Redial	1
	1 to 7	Reserved	—	—	0
SW 08	0	Retransmission interval on E-Mail delivery error	*4	*4	0
	1		*4	*4	1
	2		*4	*4	1
	3		*4	*4	0
	4 to 7	Reservation	—	—	0
SW 09	0	Retransmission times on E-Mail delivery error	*5	*5	0
	1		*5	*5	1
	2		*5	*5	0
	3		*5	*5	1
	4		*5	*5	0
	5		*5	*5	0
	6		*5	*5	0
	7	Reservation	—	—	0
SW 10	0 to 7	Reservation	—	—	0
SW 11	0	Timer 1 RING reception → CONNECT reception	*6	*6	0
	1		*6	*6	0
	2		*6	*6	0
	3		*6	*6	0
	4		*6	*6	0
	5		*6	*6	1
	6		*6	*6	0
	7		*6	*6	0

SW No.	Bit	Functions	0	1	Default
SW 12	0	Timer 2 Dial request completed → CONNECT reception	*7	*7	0
	1		*7	*7	0
	2		*7	*7	0
	3		*7	*7	0
	4		*7	*7	0
	5		*7	*7	0
	6		*7	*7	1
	7		*7	*7	0
SW 13	0 to 7	Reservation	—	—	0
SW 14	0	Timer 4 Line connection → Start request telegram delivery	*8	*8	0
	1		*8	*8	0
	2		*8	*8	0
	3		*8	*8	0
	4		*8	*8	0
	5		*8	*8	1
	6		*8	*8	0
	7		*8	*8	0
SW 15	0	Timer 5 Wait time for other side's response	*9	*9	0
	1		*9	*9	1
	2		*9	*9	1
	3		*9	*9	1
	4		*9	*9	1
	5		*9	*9	0
	6		*9	*9	0
	7		*9	*9	0
SW 16	0 to 7	Reservation	—	—	0
SW 17	0 to 7	Reservation	—	—	0
SW 18	0	Attention display	Do not call	Call	1
	1 to 7	Reservation	—	—	0
SW 19 to SW 40	0 to 7	Reservation	—	—	0

*1: Baud rate

Mode	01-7	01-6	01-5	01-4
9600 bps	0	1	1	0
19200 bps	0	1	1	1
“38400 bps”	1	0	0	0

*2: Modem redial interval

Mode	05-3	05-2	05-1	05-0
1 minute	0	0	0	1
2 minutes	0	0	1	0
“3 minutes”	0	0	1	1
4 minutes	0	1	0	0
5 minutes	0	1	0	1
6 minutes	0	1	1	0
7 minutes	0	1	1	1
8 minutes	1	0	0	0
9 minutes	1	0	0	1
10 minutes	1	0	1	0

*3: Modem redial times

Mode	06-6	06-5	06-4	06-3	06-2	06-1	06-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*4: Retransmission interval on E-Mail delivery error

Mode	08-3	08-2	08-1	08-0
0 minute	0	0	0	0
10 minutes	0	0	0	1
20 minutes	0	0	1	0
30 minutes	0	0	1	1
40 minutes	0	1	0	0
50 minutes	0	1	0	1
“60 minutes”	0	1	1	0
70 minutes	0	1	1	1
80 minutes	1	0	0	0
90 minutes	1	0	0	1
100 minutes	1	0	1	0
110 minutes	1	0	1	1
120 minutes	1	1	0	0

*5: Retransmission times on E-Mail delivery error

Mode	09-6	09-5	09-4	09-3	09-2	09-1	09-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*6: Timer 1 (RING reception → CONNECT reception)

Mode	11-7	11-6	11-5	11-4	11-3	11-2	11-1	11-0
0 to 31 sec	0000 0000 to 0001 1111							
“32 sec”	0	0	1	0	0	0	0	0
33 to 255 sec	0010 0001 to 1111 1111							

*7: Timer 2 (Dial request completed → CONNECT reception)

Mode	12-7	12-6	12-5	12-4	12-3	12-2	12-1	12-0
0 to 63 sec	0000 0000 to 0011 1111							
“64 sec”	0	1	0	0	0	0	0	0
65 to 255 sec	0100 0001 to 1111 1111							

*8: Timer 4 (Line connection → Start request telegram delivery)

Mode	14-7	14-6	14-5	14-4	14-3	14-2	14-1	14-0
0 to 31 (x 100 msec)	0000 0000 to 0001 1111							
“32 (x 100 msec)”	0	0	1	0	0	0	0	0
33 to 255 (x 100 msec)	0010 0001 to 1111 1111							

*9: Timer 5 (Wait time for other side’s response)

Mode	15-7	15-6	15-5	15-4	15-3	15-2	15-1	15-0
0 to 29 sec	0000 0000 to 0001 1101							
“30 sec”	0	0	0	1	1	1	1	0
31 to 255 sec	0001 1111 to 1111 1111							

10.7.4 Setup confirmation

- **Follow the steps below to make sure that CS Remote Care has been properly set up.**

1. Call the Service Mode to the screen.
2. Touch “CS Remote Care” key.
3. Check to make sure that only selected item is displayed.

10.7.5 Calling the Maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching “Maintenance Complete” key will transmit the information to the Center and tells that it is finished.

A. When starting the Maintenance

1. Select Service Mode and touch “CS Remote Care” key.
2. Touch “ID Code” key, and input ID Code.
3. Touch “ID Coke” key.

* The Start key blinks while maintenance is being carried out.

B. When finishing the Maintenance

1. Select Service Mode and touch “CS Remote Care” key.
2. Touch “Maintenance Complete” key.

10.7.6 Calling the Center from the Administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

1. Select “Administrator Setting”, and touch “System Connection” key.
2. Touch “Admin. transmission” key.
3. Press the Start key.
   When the setup is not complete or another transmission is being carried out, the Admin. transmission key will not be displayed, and the transmission is not available.

NOTE

- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care Center.**

10.7.7 Checking the transmission log

- The transmission log list will be output to be checked.

1. Select Service Mode → “CS Remote Care”, and touch “Detail setting” key.
2. Touch “Communication Log Print” key.
3. Load Tray 1 or Bypass tray with A4R paper.
4. Press the Start key to output transmission log.

10.7.8 Detail on settings

A. System Selection

Functions	• To select the system type for remote diagnosis.
Use	• Use to newly build or change the system.
Setting/ Procedure	• Select E-Mail, Modem, or Fax. • Fax is available only when the optional Fax kit is being installed. E-Mail (Not Used) Modem Fax (Not Used)

B. ID Code

Functions	• To register the Service ID.
Use	• Use when registering and changing Service ID.
Setting/ Procedure	• Enter a 7-digit code from the 10-Key Pad. (0000001 to 9999999) <Registration> • Touch ID Code and enter the Service ID. • Touch “ID code” key to register the ID. • The “Detail Setting” key will appear when the ID has been registered.

C. Detail Setting

(1) Machine Setting

Functions	• Execute the primary setting.
Use	• Use to change the set contents. • Use to register the machine to the CS Remote Care Center.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch “CS Remote Care.” *3.* Touching the “Detail Setting” will display the primary setting. Primary Setting • Set the Center ID, Device ID, and the phone No. • When the system is selected to E-Mail, the phone No. will be the mail address. * When entering the phone No, 10-Keys and keys on the screen have following meanings. [-] Pose : Waits to start transmitting after dialing [W] Wait : Detects the dial tone of the other end [T] Tone dial : Carry out tone dialing [P] Pulse dial : Carry out pulse dialing [*],[#] : To be used as necessary Initial Transmission • Touching the Initial Transmission key will sent the information to the CS Remote Care Center to register the machine. (Only when the Modem or Fax is selected on the system Input.)

(2) Date/Time Input

Functions	• To set the data and time-of-day
Use	• Use to set or change the date and time-of-day.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch “CS Remote Care.” *3.* Touch “Detail Setting” to access Date/Time Input. *4.* Enter the date (month, day and year), time-of-day, and the time zone from the 10-Key Pad. *5.* Touch “SET” to start the clock.

(3) RAM Clear

Functions	• To clear the following data at the Center ID Code, Primary Setting, Date/Time Input, and Common DT.
Use	• To be used for resetting CS Remote Care. • Use to clear various types of data of the Center.
Setting/ Procedure	• The default setting is “Disable.” Enable “Disable”

(4) Communication Log Print

Functions	• To print out the Communication Log.
Use	• Use to output and use the Communication Log.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch “CS Remote Care.” *3.* Touch “Detail Setting” to access Communication Log Print. *4.* Load Tray 1 or Bypass Tray with A4R paper. *5.* Press Start key to print out the Communication Log.

(5) Software SW

Functions	• To change the CS Remote Care settings.
Use	• To change the settings for CS Remote Care as necessary.
Setting/ Procedure	☞ For procedures on settings, see 249.

(6) Response Time Out

Functions	• Not Used.
Use	
Setting/ Procedure	

D. AT Command

Functions	• To set the command to be issued at the time of Modem Initialization. • This setting is available only when “Modem” is selected for the system setting.
Use	• To set the command to be issued at the time of Modem Initialization.
Setting/ Procedure	• Enter the command and touch “SET” to register.

E. Server set

Functions	• Not Used.
Use	
Setting/ Procedure	

10.7.9 List of the CS Remote Care error code

NOTE

- **Error codes in the shaded region may occur when transmitting from the machine to the center.**

Error code	Error	Solution
K00_00	Connection NG (Cannot connect from the modem, timed out).	Redial and wait for re-reception.
K00_01	No response (After connection, no start telegram from the center detected).	Redial and wait for re-reception.
K00_02	Copying. Could not be written in non-volatile memory, and line disconnected.	-
K00_03	Center ID mismatch.	Confirm the center ID.
K00_04	Serial number mismatch.	Confirm the serial number.
K00_05	Grammar error (when receiving undefined commands or parameters).	Redial.
K00_06	Received a write order for an unwritable item.	-
K00_07	Unread item error.	-
K00_08	Signal reception time out after a response detection (after the start telegram shuttled).	Redial.
K00_09	Already registered serial number.	-
K00_10	Communication error occurred because of the carrier OFF (NO CARRIER detected in the modem).	Redial.
K00_11	Dialtone (NO DIALTONE) detected in the modem.	Redial.
K00_12	Busy signal (BUSY) detected in the modem.	Redial.
K00_13	NO ANSWER detected in the modem.	Redial.
K00_14	Telegram error (irregular telegram received in response to the telegram you sent).	Retry standard times, and redial.
K00_15	Serial number not registered in the center (4 x 40 telegrams received).	-
K00_16	Errors not defined in the above -00 to 15 (last 2 digits).	Redial.
K00_17	Telephone number you must call was not registered.	-
		-
K01_00	DSR turned OFF or remains turned OFF.	-
K01_01	Error on creating a message queue.	-
K01_02	Error on generating a task.	-
K01_03	Error on sending a message.	-
K01_04	Error on receiving a message.	-
K01_05	Received an error (NG) from the timer task.	-
		-
K02_01	Modem initialization NG.	-
		-

Error code	Error	Solution
K03_00	Center call evacuation buffer is full. Cannot evacuate any more.	-
		-
K05_90	Because of memory shortage, unable to secure enough area for sending a mail.	-
K05_92	Controller in operation: unable to send a mail because the controller is in operation.	In the manual transmission, retry when the controller is idling. In the auto transmission, an automatic retry is performed after 1 minute.
K05_93	Mail sending error: an error was returned on sending a mail.	In the auto transmission, an automatic retry is performed after the specified time. Check if there is no fault in the network environment and the network settings.
K05_94	Machine in operation: unable to send a mail because the machine is in operation.	In the manual transmission, retry when the machine is idling. In the auto transmission, an automatic retry is performed after 1 minute.

10.7.10 Troubleshooting for CS Remote Care

If the transmission is not normal when using the modem, check the following.

- The power for the modem is ON.
- The phone line is properly connected.

10.8 System 1

10.8.1 Marketing Area

Functions	• To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
Use	• Upon setup.
Setting/ Procedure	<Marketing Area> • Select the applicable marketing area and touch “END” to set the marketing area. JAPAN US Europe Others1 Others2 Others3 Others4 ✻ These are the languages that can be selected on the Utility screen according to different marketing area settings: Japan: English, Japanese US: English, French, Spanish, Japanese Europe, Others1, Others2, Others3: German, English, French, Dutch, Norwegian, Danish, Swedish, Italian, Portuguese, Spanish, Finnish, Czech, Hungarian, Japanese <Fax Target> *1.* Touch the Fax Target key. *2.* Select the applicable marketing area using + and - keys, and touch “END.”

10.8.2 Tel/Fax Number

Functions	• To enter the TEL/FAX number of the service contact that will appear on the Touch Panel when a malfunction occurs in the machine.
Use	• Upon setup.
Setting/ Procedure	• Enter the TEL/FAX number (19 digits) from the 10-Key Pad. • Use Interrupt key to enter “-.”

10.8.3 Serial Number

Functions	• To register the serial numbers of the machine and options. • The numbers will be printed on the list output.
Use	• Upon setup.
Setting/ Procedure	• Type the serial numbers. 9 digits (0 to 9) Printer, Scanner, ADF, LCT, Sorter/FN, Duplex, Vender, Fax1

10.8.4 No Sleep

Functions	• To display the option of “OFF” for the Sleep Mode Setting screen available from Administrator Setting.
Use	• To display the option of “OFF” for the Sleep Mode Setting.
Setting/ Procedure	• The default setting is “Prohibit.” Permit “Prohibit”

10.8.5 Original Size Detection

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table. Copy Glass : To change the size detection table for the document glass. ADF : To set whether or not to detect 18k/16k while using ADF (only when marketing area is Europe)
Setting/ Procedure	<Copy Glass> • The default setting is “Table1.” “Table1” Table2 **NOTE** • **Table 2 can be set only when Original Size Detection Sensor FD2 is being mounted.** <ADF> • The default setting is “Disable.” Enable “Disable”

10.8.6 Foolscap Size Setting

Functions	• To set the size for Foolscap paper.
Use	• Upon setup. • To change the size for Foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm 81/2 x 13 81/4 x 13 81/8 x 131/4 8 x 13

10.8.7 Initialization

A. Data Clear

Functions	• To initialize the setting data.
Use	• To clears the setting data. ☞ For details on items to be cleared, see page 299 “Contents to be cleared by Reset function.” **NOTE** • **When removing or installing the hard disk after registering the data below, be sure to clear the data.** **Referring data: One-Touch Registration, User Authentication/Account Track.**
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. “System 1” → “Initialization” → “Data clear.” *3.* Press the Start key. *4.* When “OK” is displayed, turn the main power switch OFF, and ON again.

B. System Error Clear

Functions	• To reset the trouble data.
Use	• Use to clear the “Jam”, “Trouble”, “Error” displays, and other improper displays. ☞ For details on items to be cleared, see page 299 “Contents to be cleared by Reset function.”
Setting/Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. “System 1” → “Initialization” → “System Error Clear.” *3.* Press the Start key. *4.* When “OK” is displayed, turn the main power switch OFF, and ON again.

10.8.8 Install Date

Functions	• To register the date the main unit was installed.
Use	• Upon setup.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. “System 1” → “Install Date.” *3.* Enter the date (Year 4 digit → Month 2 digit → date 2 digit) from the 10-Key Pad. *4.* Touch “Entry” key to set the date of installation.

10.9 System 2

10.9.1 HDD

Functions	• Not Used.
Use	
Setting/Procedure	

10.9.2 Image Controller Setting

Functions	• To set the type of the controller. • "Peripheral Mode" appears when "Others" is selected.
Use	• When setting up the controller.
Setting/ Procedure	Image Controller Setting • Select the controller to be used. "Controller 0" : The standard controller is used. Controller 1 : Fiery Controller 2 : An external controller is used. Controller 3 : An external controller is used. Others : An external controller is used. ☞ See the Setup Instructions for the Controller. Peripheral Mode • Select the operating mode of the Scanner. Mode 1: Not use Mode 2: Not use Mode 3: Not use **NOTE** **• When the setting has been changed, turn OFF and ON the Main Power Switch.** **Note on returning the setting from "Controller 1" to "Controller 0".** • Selecting "Controller 0" will initialize the following settings made while "Controller 1" was selected. Reset the following items as necessary when using the Internal Standard Controller. <Control Panel on the machine> • Setting items included in [Network Setting] available from [Administrator Setting]. (Except [Status Notification Setting] and [Prefix/Suffix Setting] available from the following setting. [Administrator Setting] - [Network Setting] - [Detail Setting].) • The following setting [Administrator Setting] - [User Authentication /Account Track] - [General Settings] - [External Server] • The following setting [Administrator Setting] - [System Connection] - [IS OpenAPI Setting] <Page Scope Web Connection> • SSL/TLS

10.9.3 Option Board Status

Functions	• To set when the Optional Fax Mount Kit, Local Interface Kit is mounted.
Use	• Use when setting up the Optional Fax Mount Kit, Local Interface Kit is mounted.
Setting/ Procedure	• Setting modes are Fax (Main) and local I/F. • The default setting is "Unset." Fax (Main) :Set "Unset" Fax (Sub) :Not Used local I/F :Set "Unset" JPEG :Not Used **NOTE** **• When the setting has been changed, turn OFF and ON the Main Power Switch.**

10.9.4 Consumable Life Reminder

Functions	• To select whether or not to give the display of PM parts lifetime PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part. • Applicable units: Transfer Belt Unit, Fusing Unit, Paper Dust Remover/Ozone Filter, Transfer Roller Unit, IU (C, M, Y, K)
Use	• Use to select not to give the display of PM parts lifetime.
Setting/ Procedure	• The default setting is “Yes.” “Yes” No

10.9.5 Unit Change

Functions	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. When “User” is selected : Copying is inhibited. When “Service” is selected : Life warning.
Use	• Upon setup
Setting/ Procedure	• The following are the default settings: US, Japan, Others 4 Europe, Others1/2/3 Toner Cartridge : “User” Service “User” Service Imaging Unit : User “Service” “User” Service Waste Toner Box : User “Service” “User” Service Punch Dust Box : User “Service” “User” Service

10.9.6 Software Switch Setting

Functions	• Not Used
Use	
Setting/ Procedure	

10.9.7 Scan Caribration

Functions	• To set whether to use the calibration adjustment value set prior to the shipping.
Use	• To be used when CCD unit has bee changed. After replacing the CCD unit, the default value needs to be set since the calibration value set for each unit changes to control the differences in reading performance on each scanner (CCD).
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, the function becomes available by turning the auxiliary power button OFF and ON again.**

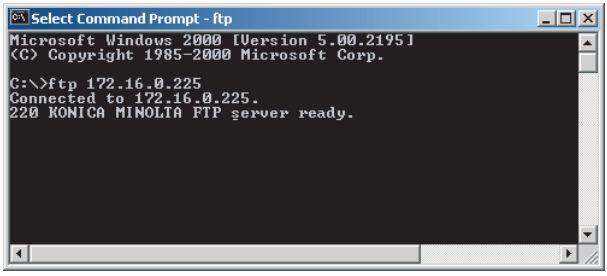
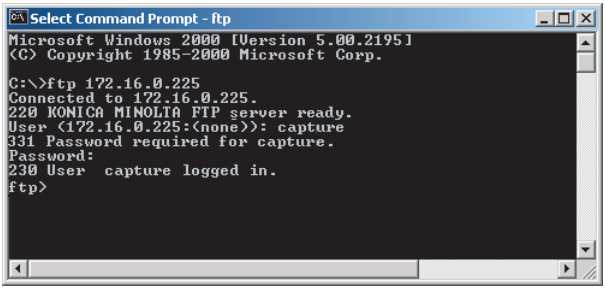
10.9.8 LCT Paper Size Setting

Functions	• To set the paper size for the LCT
Use	• Use to change the paper size for the LCT.
Setting/ Procedure	The default setting depends on the setting made for the applicable marketing area. A4 81/2 x 11

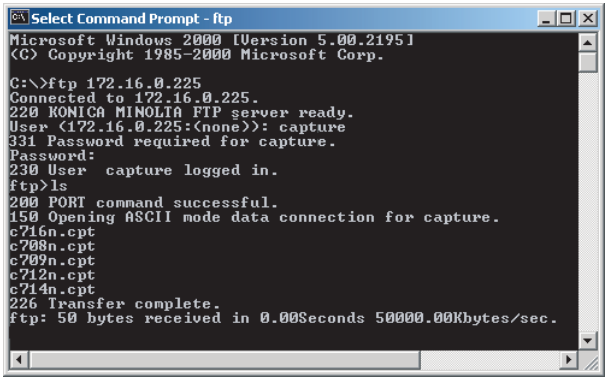
10.9.9 Line Mag Setting

Functions	• To set whether t use the offset value which has been set prior to the shipping.
Use	• To be used after replacing the CCD unit. After replacing the CCD unit, the default value needs to be set since the magnification offset value between the lines set for each unit changes to control the differences in reading performance on each scanner (CCD).
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, the function becomes valid by turning the auxiliary power button OFF and ON again.**

10.9.10 Data Capture

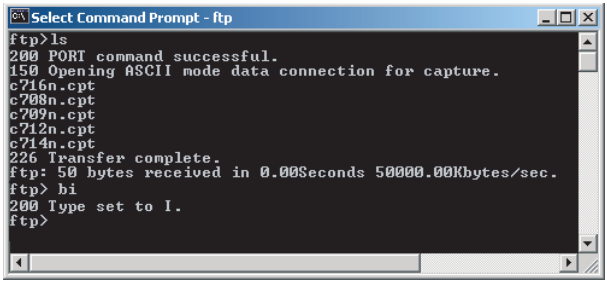
Functions	• When an error occurs, it acquires the print job data in order to analyze the cause of the error.
Use	• When an error occurs, this will be used to analyze the cause of the error according to the print job data.
Setting/ Procedure	**NOTE** • **The following conditions are necessary for this function. When selecting "Security Setting" → "Security Details" → "Print Data Capture" in Administrator Setting, "Allow" must be set.** • **The hard disk must be mounted to the machine.** • **When selecting "Administrator Setting" → "Network Setting" → "FTP Setting", "FTP Server: ON" must be set.** • **This function is not available when using the optional L-controller (IC-402).** *1.* Select Service Mode → "System 2", and touch "Data Capture. Select "ON." (While the Data Capture setting is "ON", the print job data from the PC will be stored in the hard disk.) *2.* Check the IP address of the machine. *3.* Connect the PC (Windows) and the machine with Ethernet cable. *4.* Start the DOS command prompt of the PC, and specify the IP address of the machine to start FTP.  4037F3E538DA *5.* Input the user name and the password. User name: capture Password: sysadm  4037F3E539DA

6. Using the “ls” command, display the list of the file available for capture.



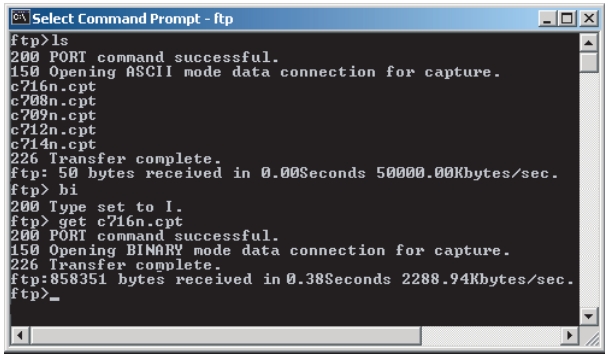
4037F3E540DA

7. Using the “binary” command, set the File transfer mode to the binary transfer.



4037F3E541DA

8. Using the “get” command, transfer the data for capture to PC.



4037F3E542DA

9. Finish the command prompt.

NOTE

- **When the data capture is set to “ON”, all print job data will be stored in the hard disk.**
- **After receiving capture data, select “Administrator Setting” → “Security Setting” → “Security Detail”, and select “Restrict” for Print Data Capture in order to delete the job data stored in the hard disk.**

10.10 Counter

- The Counter displays the counts of various counters to allow the Technical Representative to check or set as necessary.

10.10.1 Procedure

1. Touch “Counter” to show the Counter menu.
2. Select the specific counter to be displayed.
3. To clear the counts of two or more counters within a group or across different groups at once, touch “Counter Reset,” select the specific counters to be cleared, and touch “END.” Two or more counters can be selected.

10.10.2 Life

Functions	• To check the number of hours or times each of the different maintenance parts has been used. • To clear the count of each counter.
Use	• When each of the maintenance parts is replaced.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the Fusing Unit, Transfer Belt Unit, and IU, which are provided with a new unit detection function. <1> • Fusing Unit : Number of times a sheet of paper is fed through • Transfer Roller Unit : Number of times a sheet of paper is fed through • Transfer Belt Unit : Number of times a sheet of paper is fed through • Paper Dust Remover/ Ozone Filter : Number of times a sheet of paper is fed through • 1st. : Number of sheets of paper fed from Tray 1 • 2nd. : Number of sheets of paper fed from Tray 2 • 3rd. : Number of sheets of paper fed from Tray 3 • 4th. : Number of sheets of paper fed from Tray 4 • Manual Tray : Number of sheets of paper fed from the Bypass
	<2> • Cyan IU : Period of time over which the Cyan Developing Unit has been used. • Magenta IU : Period of time over which the Magenta Developing Unit has been used. • Yellow IU : Period of time over which the Yellow Developing Unit has been used. • Black IU : Period of time over which the Black Developing Unit has been used. • LCT Parts : Number of sheets of paper fed from the LCT • ADF Feed : Number of sheets of paper fed through the take-up section of the ADF • ADF Reverse : Number of sheets of paper fed through the turnover unit of the ADF • Sorter/Finisher : Number of sheets of paper fed out of the Sorter/Finisher

10.10.3 Jam

Functions	• To check the number of misfeeds that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of paper misfeeds that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.4 Service Call Counter

Functions	• To check the number of malfunctions that have occurred at different locations in the machine • To clear the count of each counter.
Use	• To check the number of malfunctions that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.5 Warning

Functions	• To check the number of warning conditions detected according to the warming type • To clear the count of each counter.
Use	• To check the number of warning conditions that have been detected
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • When a warning condition occurs, an oil mark appears at the lower left corner of the Basic screen. • Touching the oil mark will display the warning code screen.

10.10.6 Maintenance

Functions	• To set a count value for maintenance of any given part.
Use	• When any given part is replaced.
Setting/ Procedure	Maint.-Set • Enter the maintenance counter value from the 10-Key Pad. Maint.-Count • Counts up when a sheet of paper is fed through the machine. • Pressing the Clear key will clear the count. • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.7 Service Total

Functions	• To display the count value for the service total counter.
Use	• Use to check the total No. of printed pages including the ones printed by the Service Mode.
Setting/ Procedure	Service Total : No. of pages printed by User mode and Service Mode. Service Total (Duplex) : No. of pages printed by User mode and Service Mode in Duplex.

10.10.8 Counter of Each Mode

Functions	• To display the printed pages in the following specified modes; Copy, Printer, Scanner, and Fax. It also displays the count value of using the specified mode.
Use	• Use to check the printed pages in the following specified modes; Copy, Printer, Scanner, and Fax, as well as No. of times each mode was used, in order to know the using condition.

10.10.9 Service Call History (Data)

Functions	• To display the trouble history in chronological order.
Use	• Use to check the trouble history in chronological order.

10.10.10 ADF Paper Pages

Functions	• To display the No. of pages fed to the Automatic Document Feeder.
Use	• Use to check the No. of pages fed to the Automatic Document Feeder.

10.10.11 Paper Jam History

Functions	• To display the jam history in chronological order.
Use	• Use to check the jam history in chronological order.

10.10.12 Fax Connection failed

Functions	• To display the No. of Fax transmission errors occurred.
Use	• Use to check the No. of Fax transmission errors occurred.

10.11 List Output

10.11.1 Machine Management List

Functions	• To produce an output of a list of setting values, adjustment values, Total Counter values, and others.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4R plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • Data printed is in English (alphanumeric characters). • The time-of-day and date will also be printed.

10.11.2 Adjustment List

Functions	• To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4R plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • Data printed is in English (alphanumeric characters). • The time-of-day and date will also be printed.

10.11.3 Parameter

☞ For details, see FK-502 Service Manual.

10.11.4 Service Parameter

☞ For details, see FK-502 Service Manual.

10.11.5 Protocol Trace

☞ For details, see FK-502 Service Manual.

10.11.6 Fax Setting List

☞ For details, see FK-502 Service Manual.

10.12 State Confirmation

10.12.1 Sensor Check

Functions	• To display the states of the input ports of sensors and switches when the machine remains stationary.
Use	• Used for troubleshooting when a malfunction or a misfeed occurs.
Setting/ Procedure	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a cover is open.

A. Electrical Components Check Procedure Through Input Data Check

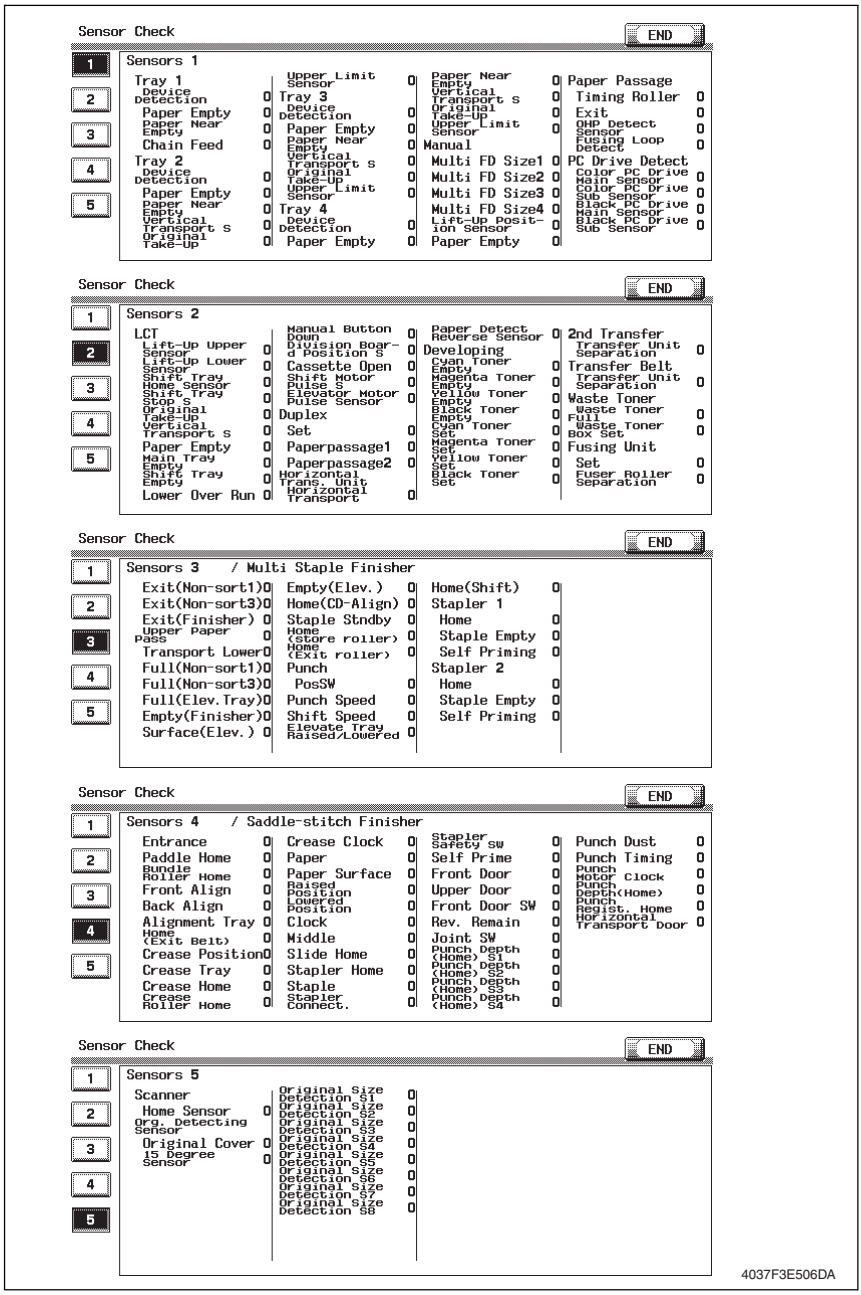
Example

- When a paper misfeed occurs in the paper take-up section of the machine, the Tray 2 Paper Take-Up Sensor is considered to be responsible for it.

1. Remove the sheet of paper misfed.
2. From the Sensor Check List that follows, check the panel display of the Tray 2 Paper Take-Up Sensor. For the Tray 2 Paper Take-Up Sensor, you check the data of “Take-Up” of “Tray 2.”
3. Call the Service mode to the screen.
4. Select “State Confirmation” → “Sensor Check” and then select the screen that contains “Take-Up” under “Tray 2.” For “Take-Up” under “Tray 2,” select “1” on the left-hand side of the screen.
5. Check that the data for “Take-Up” under “Tray 2” is “0” (sensor blocked).
6. Move the actuator to unblock the Tray 2 Paper Take-Up Sensor.
7. Check that the data for “Take-Up” under “Tray 2” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

B. Sensor Check Screens

- These are only typical screens which may be different from what are shown on each individual machine.



4037F3E506DA

C. Sensor Check List
(1) Sensors 1 (Main Unit, PC-102, PC-202)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC14	Tray 1	Device Detection	Tray 1 Set Sensor	In position	Out of position
PC2		Paper Empty	Tray 1 Paper Empty Sensor	Paper not present	Paper present
PC13		Near Empty	Tray 1 Paper Near-Empty Sensor	Blocked	Unblocked
PC1		Chain Feed	Tray 1 Double Feed Sensor	Paper present	Paper not present
PC103	Tray 2	Device Detection	Tray 2 Set Sensor	In position	Out of position
PC106		Paper Empty	Tray 2 Paper Empty Sensor	Paper not present	Paper present
PC104		Near Empty	Tray 2 Paper Near-Empty Sensor	Blocked	Unblocked
PC108		Vertical Transport	Tray 2 Vertical Transport Sensor	Paper present	Paper not present
PC107		Take-Up	Tray 2 Paper Take-Up Sensor	Paper present	Paper not present
PC105		Upper Limit	Tray 2 Lift-Up Sensor	At raised position	Not at raised position
PC112-PF	Tray 3	Device Detection	Tray 3 Set Sensor	In position	Out of position
PC115-PF		Paper Empty	Tray 3 Paper Empty Sensor	Paper not present	Paper present
PC113-PF		Near Empty	Tray 3 Paper Near-Empty Sensor	Blocked	Unblocked
PC117-PF		Vertical Transport	Tray 3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PF		Take-Up	Tray 3 Paper Take-Up Sensor	Paper present	Paper not present
PC114-PF		Upper Limit	Tray 3 Lift-Up Upper Limit Sensor	At raised position	Not at raised position
PC121-PF	Tray 4	Device Detection	Tray 4 Set Sensor	In position	Out of position
PC124-PF		Paper Empty	Tray 4 Paper Empty Sensor	Paper not present	Paper present
PC122-PF		Near Empty	Tray 4 Paper Near-Empty Sensor	Blocked	Unblocked
PC126-PF		Vertical Transport	Tray 4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PF		Take-Up	Tray 4 Paper Take-Up Sensor	Paper present	Paper not present
PC123-PF		Upper Limit	Tray 4 Lift-Up Sensor	At raised position	Not at raised position

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC111	Manual	Multi FD Size1	Bypass FD Paper Size Sensor/1	ON	OFF
PC112		Multi FD Size2	Bypass FD Paper Size Sensor/2	ON	OFF
PC113		Multi FD Size3	Bypass FD Paper Size Sensor/3	ON	OFF
PC114		Multi FD Size4	Bypass FD Paper Size Sensor/4	ON	OFF
PC115		Lift-Up Position Sensor	Bypass Lift-Up Sensor	At raised position	Not at raised position
PC110		Paper Empty	Bypass Paper Empty Sensor	Paper not present	Paper present
PC28	Paper Pas-sage	Registration Roller	Registration Roller Sensor	Paper present	Paper not present
PC30		Exit	Exit Sensor	Paper present	Paper not present
PC27		OHP Detect	OHP Sensor	OHP	Not OHP
PC4		Fusing Loop Detect	Fusing Paper Loop Sensor	Loop present	Loop not present
PC10	PC Drive Detect	Color PC Drive Main Sensor	Color PC Drum Main Sensor	Blocked	Unblocked
PC35		Color PC Drive Sub Sensor	Color PC Drum Sub Sensor	Blocked	Unblocked
PC11		Black PC Drive Main Sensor	K PC Drum Main Sensor	Blocked	Unblocked
PC36		Black PC Drive Sub Sensor	K PC Drum Sub Sensor	Blocked	Unblocked

D. Sensors 2 (Main Unit, PC-402)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC4-LCT	LCT	Lift-Up Upper	Tray Upper Limit Sensor	At raised position	Not at raised position
PC13-LCT		Lift-Up Lower	Tray Lower Position Sensor	At lower limit	Not at lower limit
PC12-LCT		Shift Tray Home	Shifter Home Position Sensor	At home	Out of home
PC11-LCT		Shift Tray Stop	Shifter Return Position Sensor	At stop position	Not at stop position
PC1-LCT		Take-Up	Paper Feed Sensor	Paper present	Paper not present
PC2-LCT		Vertical Transport	LCT Vertical Transport Sensor	Paper present	Paper not present
PWB-ELCT		Paper Empty	Paper Empty Board	Paper present	Paper not present
PC3-LCT		Main Tray Empty	Upper Paper Empty Sensor	Paper present	Paper not present
PC9-LCT		Shift Tray Empty	Shift Tray Paper Empty Sensor	Paper present	Paper not present
PC7-LCT		Lower Over Run	Lower Limit Sensor	Malfunction	Operational
UN1-LCT		Manual Button Down	Paper Descent Key	ON	OFF
PC14-LCT		Division Board Position	Shift Gate Home Position Sensor	At home	Out of home
PC6-LCT		Cassette Open	Tray Set Sensor	In position	Out of position
PC8-LCT		Shift Motor Pulse	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT		Elevator Motor Pulse	Elevator Motor Pulse Sensor	Blocked	Unblocked
PI2-DU	Duplex	Set	Duplex Unit Door Set Sensor	Close	Open
PI1-DU		Paper Passage1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC1-DU		Paper Passage2	Duplex Unit Transport Sensor 2	Paper present	Paper not present
PC1-HO	Horizontal Trans. Unit	Horizontal Transport	Paper Sensor	Paper not present	Paper present
PC6-HO		Paper Detect Reverse Sensor	Turnover Empty Sensor	Paper present	Paper not present

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC17	Developing	C Toner Empty	Toner Near-Empty Sensor PQ/C	Toner not present	Toner present
PC16		M Toner Empty	Toner Near-Empty Sensor PQ/M	Toner not present	Toner present
PC15		Y Toner Empty	Toner Near-Empty Sensor PQ/Y	Toner not present	Toner present
PC18		K Toner Empty	Toner Near-Empty Sensor PQ/K	Toner not present	Toner present
PC19		C Toner Set	Toner Set Sensor/C	Out of position	In position
PC26		M Toner Set	Toner Set Sensor/M	Out of position	In position
PC25		Y Toner Set	Toner Set Sensor/Y	Out of position	In position
PC20		K Toner Set	Toner Set Sensor/K	Out of position	In position
PC29	2nd Transfer	Retraction	2nd Image Transfer Pressure/ Retraction Sensor	Not Retracted	Retracted
PC12	Transfer Belt	Retraction	1st Image Transfer Retraction Position Sensor	Not Retracted	Retracted
PC31	Waste Toner	Toner Full	Waste Toner Full Sensor	Blocked	Unblocked
PC32		Toner Box Set	Waste Toner Bottle Set Sensor	In position	Out of position
–	Fusing Unit	Set	Fusing Unit In-Position Detection Signal	In position	Out of position
PC33		Fuser Roller Retraction	Fusing Pressure/Retraction Sensor	Not Retracted	Retracted

E. Sensors 3 (FS-507, JS-601)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC1-FN	Multi Staple Finisher	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN		Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN		Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN		Upper Paper Pass	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN		Transport Lower	Lower Entrance Sensor	Paper present	Paper not present
PC6-FN		Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN		Full (Non-sort3)	Job Tray Full Sensor	Paper present	Paper not present
PC7-FN		Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN		Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN		Surface (Elev.)	Elevator Tray Upper Limit Sensor	Paper present	Paper not present
PC8-FN		Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN		Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN		Staple Standby	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN		Home (Store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked
PC13-FN		Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
		Punch2/3 Position SW			
		Punch Speed			
PC11-FN		Shift Speed	Shift Motor Pulse Sensor	Unblocked	Blocked
S2-FN S3-FN		Elevate Tray Raised/Lowered	Elevator Tray Upper Limit Switch Elevator Tray Lower Limit Switch	ON	OFF
PC10-FN		Home (Shift)	Shift Home Position Sensor	Blocked	Unblocked
	Stapler 1				
-		Home	Staple Home 1	Unblocked	Blocked
-		Staple Empty	Staple Empty 1	Unblocked	Blocked
-		Self Priming	Staple Self Priming 1	Unblocked	Blocked
	Stapler 2				
-		Home	Staple Home 2	Unblocked	Blocked
-		Staple Empty	Staple Empty 2	Unblocked	Blocked
-		Self Priming	Staple Self Priming 2	Unblocked	Blocked

F. Sensors 4 (FS-603, PK-501)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PI1-FN	Saddle Stitch Finisher	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN		Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN		Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN		Front Align	Front Aligning Plate Home Position Sensor	HP	
PI5-FN		Back Align	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN		Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN		Home (Exit Belt)	Exit Belt Home Position Sensor	HP	
PI10-FN		Crease Position	Folding Position Sensor	Paper present	Paper not present
PI13-FN		Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN		Crease Home	Folding Home Position Sensor	HP	
PI12-FN		Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN		Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN		Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN		Paper Surface	Exit Tray Home Position Sensor	Paper surface detected	
PI15-FN		Lift Raised Position	Shift Upper Limit Sensor	Upper limit	
PI16-FN		Lift Lowered Position	Shift Lower Limit Sensor	Lower limit	
PI17-FN		Lift Clock	Shift Motor Clock Sensor		
—		Lift Middle	—	Paper full	
PI18-FN		Slide Home	Slide Home Position Sensor		HP
PI19-FN		Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN		Staple	Staple Detecting Sensor	Staples loaded	No staple loaded
—		Stapler Connect.	—		Stapler connection detected
MS3-FN MS4-FN		Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	Open	
PI21-FN		Self Prime	Self-Priming Sensor		READY
PI22-FN		Front Door	Front Door Open Sensor		Open
PI23-FN		Upper Cover	Upper Cover Open Sensor		Open

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
MS1-FN	Saddle Stitch Finisher	Front Door SW	Front Door Open Sensor		Open
—		Remain in Reverse Section	—		Paper horiz. side
MS2-FN		Joint SW	Joint Open Sensor		Open
—	Punch Unit	Punch Depth1	—		
—		Punch Depth2	—		
—		Punch Depth3	—		
—		Punch Depth4	—		
—		Punch Dust	—	Punch trash full	
—		Punch Timing	—		
PI3P-PK		Punch Motor Clock	Punch Motor Clock Sensor	Blocked	
PI1P-PK		Punch (Home)	Punch Home Position Sensor	HP	
PI2P-PK		Punch Depth Home	Side Registration Home Sensor	HP	
PC6-HO		Horizontal Transport Door	Horizontal Unit Door Sensor	Blocked	Unblocked

G. Sensors 5 (Main Unit)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC201	Scanner	Home Sensor	Scanner Home Sensor	At home	Out of home
SW201	Org. Detecting Sensor	Original Cover	Size Reset Switch	Lowered	Raised
PC202		20 Degree	Original Cover Angle Sensor	Less than 20°	20° or more
PC203		Original Size Detection 1	Original Size Detecting Sensor FD1	Original loaded, not mounted	Original not loaded
PC204		Original Size Detection 2	Original Size Detecting Sensor FD2	Original loaded,not mounted	Original not loaded
PC204		Original Size Detection 3	Original Size Detecting Sensor FD2	Original loaded,not mounted	Original not loaded
PC205		Original Size Detection 4	Original Size Detecting Sensor FD3	Original loaded,not mounted	Original not loaded
PC205		Original Size Detection 5	Original Size Detecting Sensor FD3	Original loaded,not mounted	Original not loaded
PC206		Original Size Detection 6	Original Size Detecting Sensor CD1	Original loaded,not mounted	Original not loaded
PC206		Original Size Detection 7	Original Size Detecting Sensor CD1	Original loaded,not mounted	Original not loaded
PC207		Original Size Detection 8	Original Size Detecting Sensor CD2	Original loaded,not mounted	Original not loaded

10.12.2 Table Number

Functions	• To display the Vg/Vdc output values calculated for the image density of the test pattern (amount of toner sticking) produced on the Transfer Belt during an AIDC detection sequence. • Reference values: C, M, Y K Vdc: around 390 V, Vg: around 550 V
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• If the value is high, correct so that the image density becomes low. • If the value is low, correct so that the image density becomes high.

10.12.3 Level History1

Functions	• To display TCR (T/C ratio), IDC/Regist Sensor output values, and fusing temperature.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• TCR-C/-M/-Y/-K: Shows the T/C output reading taken last. • IDC1/IDC2 : Shows the latest IDC data. • Temp-Belt : Shows the latest Heating Roller temperature data. • Temp-Press. : Shows the latest Fusing Pressure Roller temperature data. "Reading taken last" means • Density of toner of the latest image • When a test print is produced by pressing the Start key while Level History 1 is being displayed.

10.12.4 Level History2

Functions	• IDC Sensor (Transfer Belt bare surface level) as adjusted through the image stabilization sequence and ATVC value.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• IDC Sensor: Shows the intensity adjustment value (0 to 255) of the IDC Sensor. • ATVC (C, M, Y, K): Shows the first image transfer ATVC adjustment value (300 V to 3000 V). • ATVC (2nd) : Shows the second image transfer ATVC adjustment value (300 V to 5000 V).

10.12.5 Temp. & Humidity

Functions	• To display the temperature and humidity of a specific location (AIDC Sensor portion) inside the machine and fusing temperature.
Use	• Used as reference information when a malfunction occurs.
Setting/ Procedure	• Machine interior temperature : 0 to 100 °C in 1 °C increments • Temperature on Fusing Belt side : 0 to 255 °C in 1 °C increments • Temperature on fusing pressure side : 0 to 255 °C in 1 °C increments • Machine interior humidity : 0 to 100 % in 1 % increments • Absolute humidity : 0 to 100 in 1 increments

10.12.6 CCD Check

Functions	• To display the D/A value of CCD clamp/gain for R, G, and B.
Use	• Used for troubleshooting for the CCD Sensor.
Setting/ Procedure	• Use the following guidelines on the correct range of values. CLAMP: The difference between the max. and min. output values should be within ±100. GAIN : The difference from the CLAMP values (R, B) should be within (90 for R and B. The difference from the CLAMP value (G) should be within ±50 for G. The difference between each pair of RO and RE, GO and GE, and BO and BE should be within 30.

10.12.7 Memory / HDD Adj.

A. Memory Check

Functions	• To check correspondence of data written to and that read from memory through write/read check. Rough Check • A check is made to see if the image data reading and writing are correctly made in a very limited area. Detail Check • A check is made to see if the image data reading and writing are correctly made at the addresses and buses in all areas. • The progress of the check sequence is displayed in percentage.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "Memory Check." *3.* Select the desired type of check, either Rough Check or Detail Check. *4.* Press the Start key to start the check procedure. *5.* When the check procedure is completed, the results are shown on the screen. If the check results are NG, check the memory for connection or replace the memory with a new one. ✻ Press the Stop key to interrupt the check sequence. (Only Rough Check)

B. Compress / Decompression Check

Functions	• To check whether compression and decompression are carried out properly.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "Compress / Decompression Check." *3.* Pressing the Start key will automatically start to complete a compression/decompression check sequence. *4.* The check result will be displayed, ✻ Press the Stop key to interrupt the check sequence.

C. Memory Bus Check

Functions	• To check to see if image data is correctly transferred from scanner to memory, and from memory to printer.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "Memory Bus Check." *3.* Select either "Scanner → Memory," "Memory → PRT," or both. *4.* Pressing the Start key will start the memory bus check and be terminated automatically. *5.* The check result will be displayed, "OK" or "NG."

D. Work Memory In/Out Check

Functions	• To check to see if input and output of image data of work memory are correctly performed.
Use	• If the print image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "Work Memory In/Out Check." *3.* Select either "Input Check," "Output Check," or both. *4.* Pressing the Start key will start the work memory input/output operation check sequence and be terminated automatically. *5.* The check result will be displayed, "OK" or "NG." ✻ Press the Stop key to interrupt the check sequence.

E. HDD R/W Check

Functions	• To check to see if the hard disk is connected properly, and if read/write operation of the hard disk is correctly performed.
Use	• When the hard disk is mounted.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "HDD R/W Check." *3.* Pressing the Start key will start the hard disk R/W check sequence and be terminated automatically. *4.* The check result will be displayed, "OK" or "NG." ✻ Press the Stop key to interrupt the check sequence.

F. HDD Format

Functions	• To format the hard disk • The function proceeds in the order of Physical Format to Logical Format. • If the hard disk is yet to be formatted, the malfunction code "C-D010" will appear. Ignore this code and continue with the formatting procedure.
Use	• When the hard disk is mounted. • When the hard disk is to be initialized. (Physical Format to Logical Format)
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: "State Confirmation" → "Memory / HDD Adj." → "HDD Format." **(1) Physical Format** *1.* Touch "Physical Format." *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn OFF and ON the Main Power Switch. **(2) Logical Format (Only when initial is set up)** *1.* Touch "Logical Format." *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn OFF and ON the Main Power Switch. ✻ Formatting the hard disk will erase all data contained in it.

10.12.8 Memory/HDD State

Functions	• To display the condition and amount of the memory and Hard disk.
Use	• Use to check the condition and amount of the memory and Hard disk.
Setting/ Procedure	• When an add-on memory is mounted, the machine automatically recognizes it and displays its capacity.

10.12.9 Color Regist

Functions	• To check each of C, M, Y, and K for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.
Use	• Use for check when color shift is evident.
Setting/ Procedure	• For each of C, M, Y, and K, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots • The shift amount is displayed with reference to K for C, M, and Y, and that for K is displayed with reference to an ideal position.

10.12.10 IU Lot No.

Functions	• To display the 10-digit lot number for each of C, M, Y, and K IUs. • The lot number data is stored in EEPROM of each IU.
Use	• Use for checking the IU Lot No.
Setting/ Procedure	• The IU lot number is displayed even with the Front Door opened; however, the display is blank, since the machine is unable to read the lot number when the Main Power Switch is turned ON with the Front Door open. Nonetheless, the lot number will be displayed when the Front Door is closed. (The engine obtains the IU lot number information when the Front Door is closed.)

10.12.11 LPH Status

Functions	• To check various information on each of the C, M, Y, and K LPHs
Use	• Use for checking the LPH Status.
Setting/ Procedure	• LPH Lot No.: LPH lot number (8 digits) • Average Exposure: Average light intensity • X: Print width accuracy • Y: Linearity accuracy • Z: Focus accuracy • FFT Rank: Print width rank • LPH Rank: 0 to 5 • If any one change is made from the default value as a result of LPH chip-to-chip corrections, an asterisk "⁎" is displayed beside the color identification (C, M, Y, and K) on the screen.

10.12.12 Adjustment Data List

Functions	• To display the adjustment and setting value set in the main unit.
Use	• Use to check the adjustment and setting value set in the main unit.

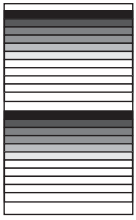
10.13 Test Mode

- To check the image on the printer side by letting the machine produce various types of test pattern. It also tests the printing operation in running mode, as well as the Fax transmission.
- The machine searches through the paper sources in the order of Tray 2, Tray 3, Tray 4, and Tray 1 for paper of the maximum size for printing.

10.13.1 Procedure for Test Pattern Output

1. Touch “Test Mode” to display the Test Mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

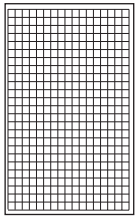
10.13.2 Gradation Pattern

Functions	• To produce a gradation pattern.
Use	• Used for checking gradation reproducibility.
Pattern	 4036fs3042c0 SINGLE HYPER Gradation Cyan
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER”. • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), CMYK, 8Color, 4Color, Black (1PC) • Black (4PC): Uses four colors. • Black (1PC): Uses one color of black.

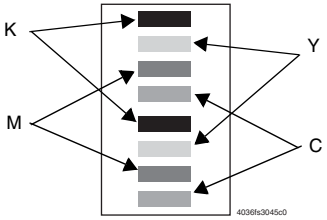
10.13.3 Halftone Pattern

Functions	• To produce a solid halftone pattern.
Use	• Used for checking uneven density and pitch noise.
Pattern	4036fs3043c0 SINGLE HYPER Gradation Cyan Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC), MIX • Type the density level (0 to “255”).

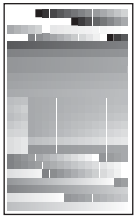
10.13.4 Lattice Pattern

Functions	• To produce a lattice pattern.
Use	• Used for checking fine line reproducibility and uneven density. • A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.
Pattern	 4036fs3044c0 SINGLE FEET Cyan CD Width: 5 FD Width: 5 Density: 255 Normal
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select “FEET” or HYPER. • Select Gradation or Resolution. (Only select HYPER) • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC) • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to “255”). • Select “Normal” or Reverse.

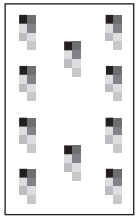
10.13.5 Solid Pattern

Functions	• To produce each of the C, M, Y, and K solid patterns.
Use	• Used for checking reproducibility of image density.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

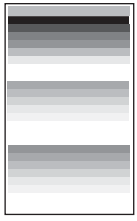
10.13.6 Color Sample

Functions	• To produce a color sample.
Use	• Used for checking reproducibility of each of the different colors.
Pattern	 SINGLE HYPER Gradation
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Produce 12-gradation-level patches of C, M, Y, K, R, G, and B, and a patch of each of the 12 reference colors in the hue circle with lightness and saturation corrected.

10.13.7 8 Color Solid Pattern

Functions	• To produce an 8-color solid pattern.
Use	• Used for checking color reproducibility and uneven density of each color.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

10.13.8 LPH Pattern

Functions	• To produce an LPH pattern.
Use	• Used for LPH chip-to-chip correction
Pattern	 SINGLE HYPER Gradation Border: OFF
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Select to turn ON or “OFF” the Border Line.

10.13.9 Running Mode

Functions	• To test the printing operation in Running Mode.
Use	• Use to check the printing operation in Running Mode from each paper source.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: “Test Mode” → “Running Mode.” *3.* Select the paper size (Tray 1, Bypass only). *4.* Select the paper type. *5.* Press the Start key to start the Running Mode. *6.* Pressing the Stop key will stop operation.

10.13.10 Fax Test

☞ For details, see FK-502 Service Manual.

10.14 ADF

☞ For details, see DF-601 Service Manual.

10.15 FAX

☞ For details, see FK-502 Service Manual.

10.16 Finisher

☞ For details on adjustment, see the Service Manual for Option FS-603.

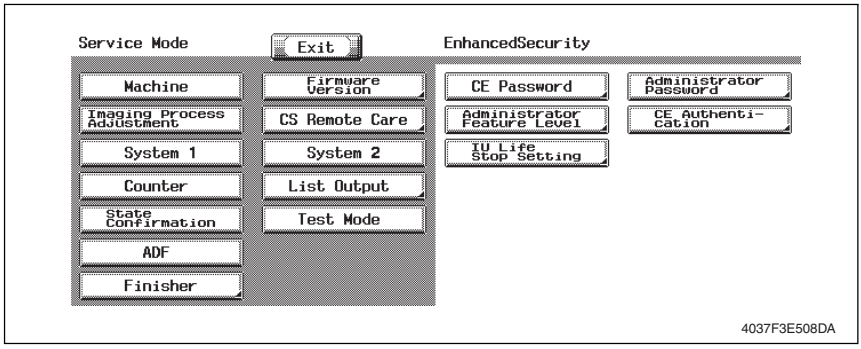
Functions	• To adjust the positions of center staple and folding for the Finisher.
Use	• Use when the center staple and folding positions deviate from the correct ones in the copies made using the Fold & Staple function.
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments). • Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

11. Enhanced Security

11.1 Enhanced Security Function Setting Procedure

11.1.1 Procedure

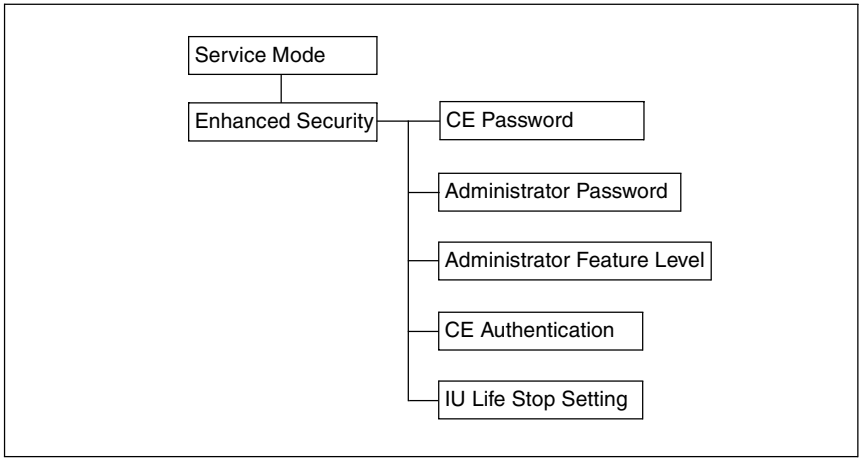
1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 0→ Clear
3. Enhanced Security menu will appear.



11.1.2 Exiting

- Touch the “Exit” key.

11.2 Enhanced Security Function Tree



11.3 Settings in the Enhanced Security

11.3.1 CE Password

Functions	• To set and change the CE Password.
Use	• Use to change the CE Password.
Setting/ Procedure	• Enter the CE Password (8 digits) on the on-screen keyboard. • The initial setting is "92729272." Current Password : Enter the currently using CE Password. New Password : Enter the new CE Password. Re-Input Password: Enter the new CE Password again. **NOTE** • **When the following setting leads to the Password Rules "ON", the password with the same letters as well as the password which is same as the previous one cannot be changed.** **"Administrator Setting" → "Security Setting"** • **NEVER forget the CE password. When forgetting the CE password, call responsible person of KONICA MINOLTA.**

11.3.2 Administrator Password

Functions	• To set and change the Administrator Password.
Use	• Use to change the Administrator Password.
Setting/ Procedure	• Enter the Administrator Password (8 digits) on the on-screen keyboard. • The initial setting is "12345678." New Password : Enter the new Administrator Password. Re-Input Password: Enter the new Administrator Password again. **NOTE** • **When the following setting leads to the Password Rules "ON", the password with the same letters as well as the password which is same as the previous one cannot be changed.** **"Administrator Setting" → "Security Setting"**

11.3.3 Administrator Feature Level

Functions	• To set which Modes to be allowed for the Administrator to use in Service Mode.
Use	• Use when allowing the Administrator to use some Modes in Service Mode. • The Modes allowed for the Administrator to use in each setting are as follows.

Administrator Setting Function			Level 1	Level 2
System Setting → Expert Setting	Printer Adjustment	Vertical Adjustment	-	❍
		Erase Leading Edge	-	❍
	Scanner Adjustment	Leading Edge Adjustment	-	❍
		Centering	-	❍
		Horizontal Adjustment	-	❍
		Vertical Adjustment	-	❍
	ADF Adjustment	Centering	-	❍
		Original Stop Position	-	❍
		Centering Auto Adjustment	-	❍
		Auto Adj. of Stop Position	-	❍
Standard Size Setting	Original Glass Original Size Detect		-	❍
	Foolscap Size Setting		-	❍

Setting/ Procedure	• The default setting is Level1. "Level1" Level2 Prohibit

11.3.4 CE Authentication

Functions	• To determine whether or not to authenticate CE Password as entering Service Mode.
Use	• Use when authenticating CE Password as entering Service Mode.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

11.3.5 IU Life Stop Setting

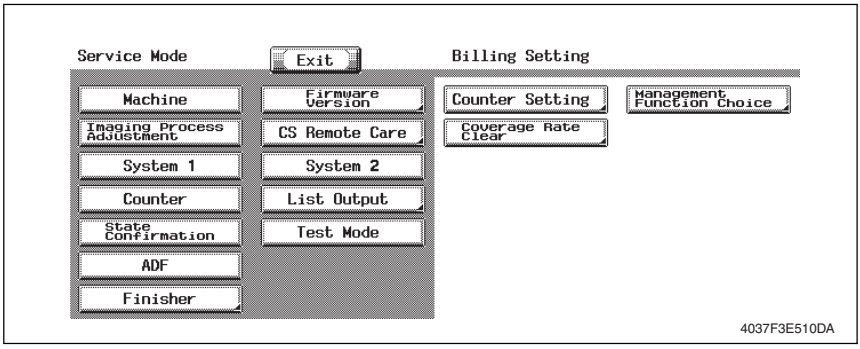
Functions	• To select whether or not to stop a print cycle when the IU reaches its service life
Use	• Use to select not to stop the print cycle when the IU reaches its service life.
Setting/ Procedure	The default setting is Stop. "Stop" Not Stop

12. Billing Setting

12.1 Billing Setting Function Setting Procedure

12.1.1 Procedure

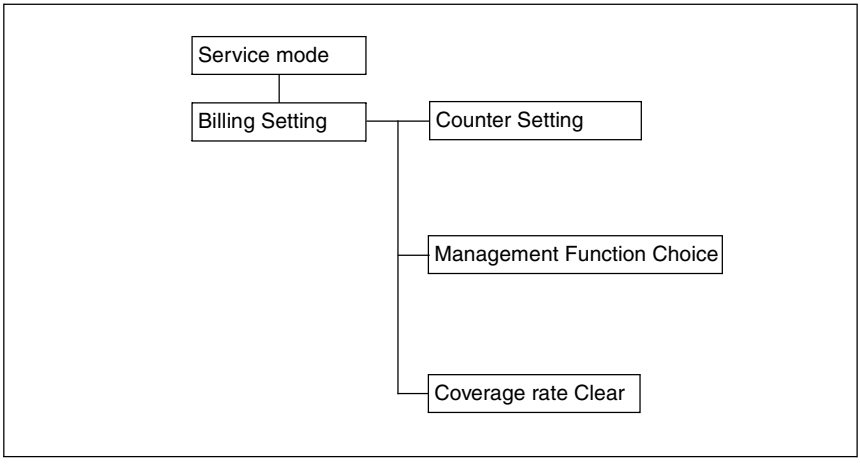
1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 9
3. Billing Setting menu will appear.



12.1.2 Exiting

- Touch the “Exit” key.

12.2 Billing Setting Function Tree



12.3 Settings in the Billing Setting

12.3.1 Counter Setting

<table>
<tr><td>Functions</td><td>• To set the counting method for the Total Counter and Size Counter.</td></tr>
<tr><td>Use</td><td>• Use to change the counting method for the counters.</td></tr>
<tr><td>Setting/
Procedure</td><td>Total Counter
Mode 1: 1 Count per 1 copy cycle (Default: US, Others 4, Japan)
Mode 2: Double count-up according to paper size and copying mode
(Default: Europe, Others 1, Others 2, Others 3)</td></tr>
<tr><td></td><td>Size Counter
• Not counted (Default: US, Others 4, Japan)
• A3 and 11 × 17
• A3, B4, 11 × 17, and 81/2 × 14 (Default: Europe, Others 1, Others 2, Others 3)
• A3, B4, Foolscap, 11 × 17, 11 × 14, and 81/2 × 14

✻ Count-up Table</td></tr>
</table>

Copying	1-Sided				2-Sided			
Size	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Mode	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts

12.3.2 Management Function Choice

Functions	• To set whether or not the Key Counter, Data Controller, and Vendor are installed.
Use	• Use to change the counting method for the administrative units.
Setting/ Procedure	Key Counter • Default setting: Unset • Select “Color Mode” and “Message” when the Key Counter is mounted. ✻ Color Mode • If “Mode 1” is selected for “Total Counter” Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle • If “Mode 2” is selected for “Total Counter,” “Sizes other than those specified” is selected for “Size Counter,” and the paper used is the specified size or one other than those specified Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle • If “Mode 2” is selected for “Total Counter,” “Sizes other than those specified” is selected for “Size Counter,” and the paper used is the specified size or one other than those specified Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle ✻ Message Select the message type when the administrative unit is mounted. Type 1: Message for Key Counter Type 2: Message for Card scanning Type 3: Message for ID management Type 4: Message for Remote SW
	Admin. Unit (Data Controller) • Default setting: Unset
	Vendor • Default setting: Unset • Select “Interface” and “Message” when the vendor is mounted. ✻ Interface Select the interface type when the vendor is mounted. Type 1: Coin Vendor is set Type 2: Not used ✻ Message Select the message type when the vendor is mounted. Type 1: Message for Coin Vendor Type 2: Message for Card Keeper Type 3: Message common to Coin Vendor and Card Keeper

12.3.3 Coverage Rate Clear

Functions	• To clear the coverage rate
Use	• Use to clear the coverage rate
Setting/ Procedure	• The default setting is Unset. Set “Unset” • Touching “END” key will clear the coverage rate.

13. Procedure for Resetting

13.1 Trouble resetting

Functions	• If the trouble occurs and the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door, clear the status of the machine.
Use	• To be used when the status would not be cleared by turning power OFF and ON again, or opening and closing the front door in case of a trouble.
Setting/ Procedure	*1.* Turn main power switch OFF. *2.* Turn main power switch ON while pressing the Utility/Counter key. *3.* Touch “Trouble Reset” key. *4.* Check to make sure that “OK” is displayed and the it has been reset. *5.* Turn main power switch OFF and ON again, and make sure that the machine properly starts.

13.2 Contents to be cleared by Reset function

Items for clearing / Contents to be cleared		Front Door Open/Close	Trouble resetting	Initialization		Main power switch Off/On
				System Error Clear	Data Clear	
Jam display		❍	-	❍	❍	-
Malfunction display	Fusing	-	❍	❍	-	-
	Optical Scanner	❍	❍	❍	❍	❍
	CC151	-	-	-	-	❍
	Others	-	-	-	-	❍
Erratic operation / display		-	-	-	-	❍
Utility Mode (Except items on Expert adjustment.)		-	-	-	❍	-
Service Mode (System 1/2)		-	-	-	❒ *1	-
Billing Setting Counter Setting		-	-	-	❍	-
Adjustment of the touch panel position		-	-	-	❍	-

❍: Will be cleared (initialized)
-: Will not be cleared

❒ *1: Items to be cleared	
System 1	Marketing Area (Fax Target Only)
	Foolscap Size Setting
	Install Date
	Tel/Fax Number
	No Sleep
	Original Size Detection
System 2	HDD

14. Mechanical adjustment

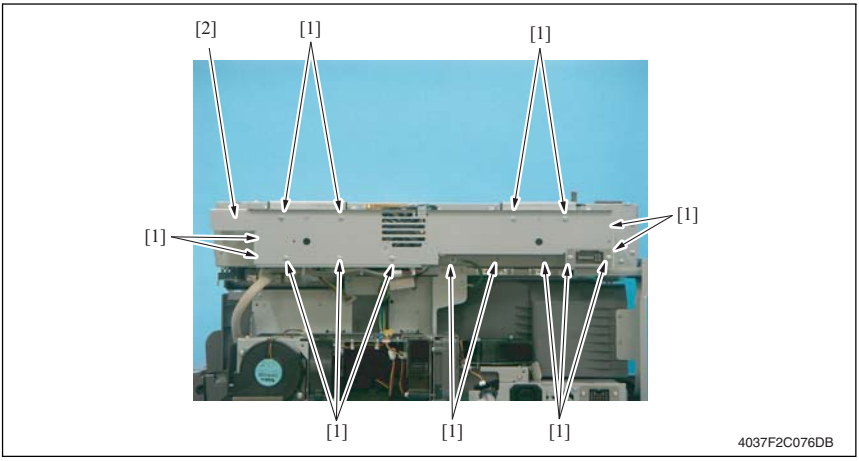
14.1 Mechanical adjustment of the scanner section

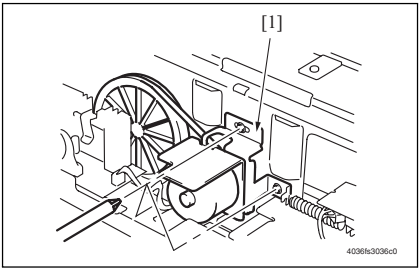
14.1.1 Adjustment of the Scanner Motor Belt

This adjustment must be made in the following case:

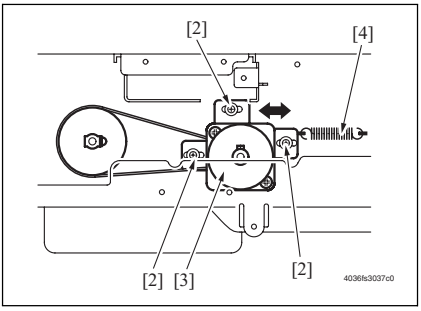
- **The Scanner Motor Assy has been removed.**
- **The Scanner Drive Cables have been rewound.**

1. Remove the IR Rear Cover.
2. Remove 16 screws and the reinforcement frame.





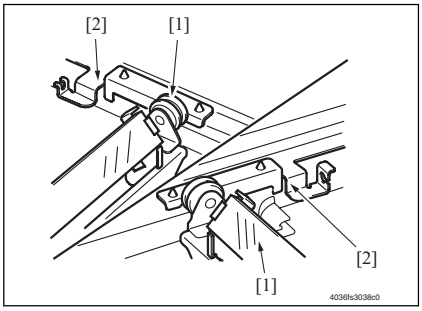
3. Loosen the three screws that secure the Scanner Motor mounting bracket [1].



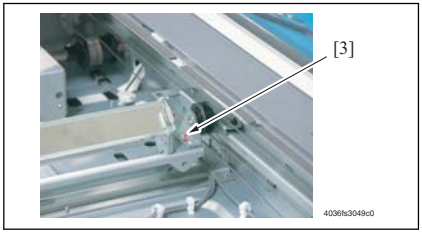
4. With the Scanner drive gear set screw [2] located on the right-hand side as shown on the left, slide the Scanner Motor Assy [3] to the left and check that it is returned to the original position by the tension of the spring [4]. Perform this step three times.
5. Tighten the three screws [2] to fix the Scanner Motor Assy into position.

14.1.2 Focus Positioning of the Scanner and Mirrors Unit

This adjustment must be made in the following case:
- **The Scanner Drive Cables have been rewound**



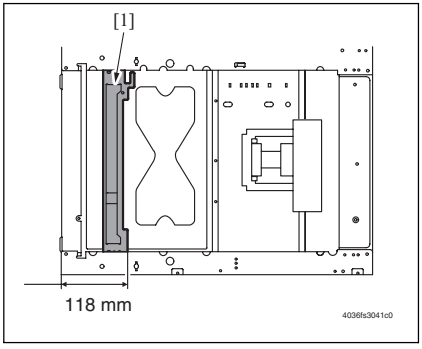
1. Slide the Mirrors Unit [1] to the center until it is pressed up against the cutouts in the rails [2].



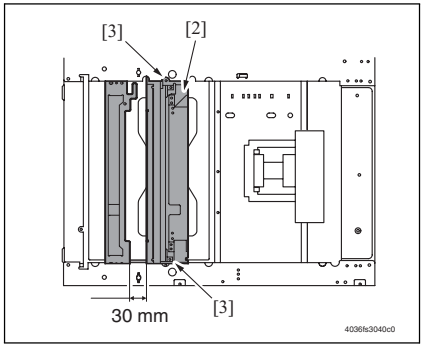
2. If the Mirrors Unit is not pressed up against the cutouts, loosen the adjusting screw (to which red paint is applied) [3] of the Mirrors Unit and press the carriage up against the cutouts. Then, tighten the adjusting screw.

14.2 Scanner Position Adjustment

This adjustment must be made in the following case:
- **The Scanner Drive Cables have been rewound.**
- **Focus Positioning of the Scanner and Mirrors Unit must be completed.**



1. Slide the Mirrors Unit [1] to the position shown on the left.



2. Secure the Scanner [2] in the position shown on the left using the two Scanner positioning screws [3].
3. Make the Feed Direction Adjustment.

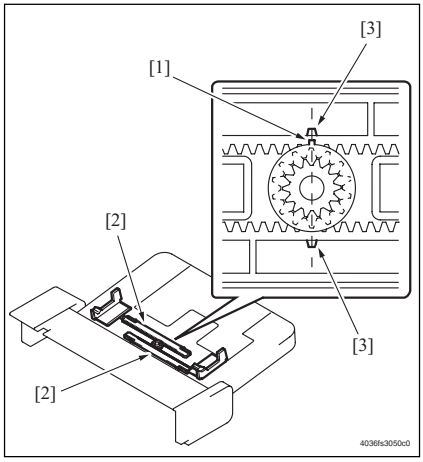
☞ 233

14.3 Mechanical adjustment of the bypass tray section

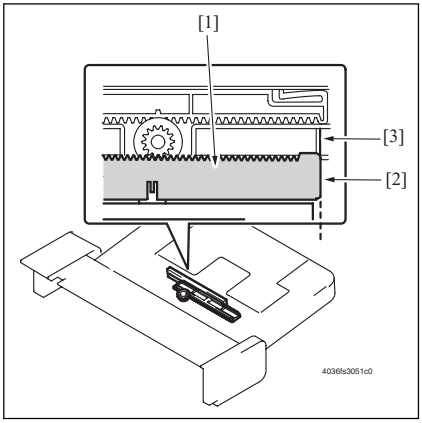
14.3.1 Adjustment of the Bypass Paper Size Unit

This adjustment must be made in the following case:

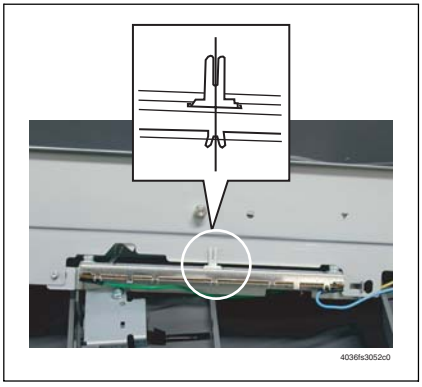
- **The Bypass Paper Size Unit has been removed.**



1. Install the gear so that the protrusion of the gear [1] and the mark [3] on the Bypass Guide Rack Gear [2] are aligned in a straight line.



2. Install the Bypass Unit Cover so that part A (edge) [2] of the Rack Gear [1] for the Bypass Paper Size Unit and part B [3] of the Bypass Unit Cover are aligned in a straight line.



3. When the Bypass Paper Size Unit base is mounted, align the lever position of the Bypass Paper Size Unit with the tab at the center in a straight line.

4. After the Bypass Paper Size Unit base has been mounted, check that the lever of the Bypass Paper Size Unit moves smoothly in a manner operatively connected to the Bypass Guide.

5. Call the Service Mode to the screen and select “Machine” → “Manual Bypass Tray Adjustment.” Then, carry out “Manual Bypass Tray Adjustment.”

☞ 238

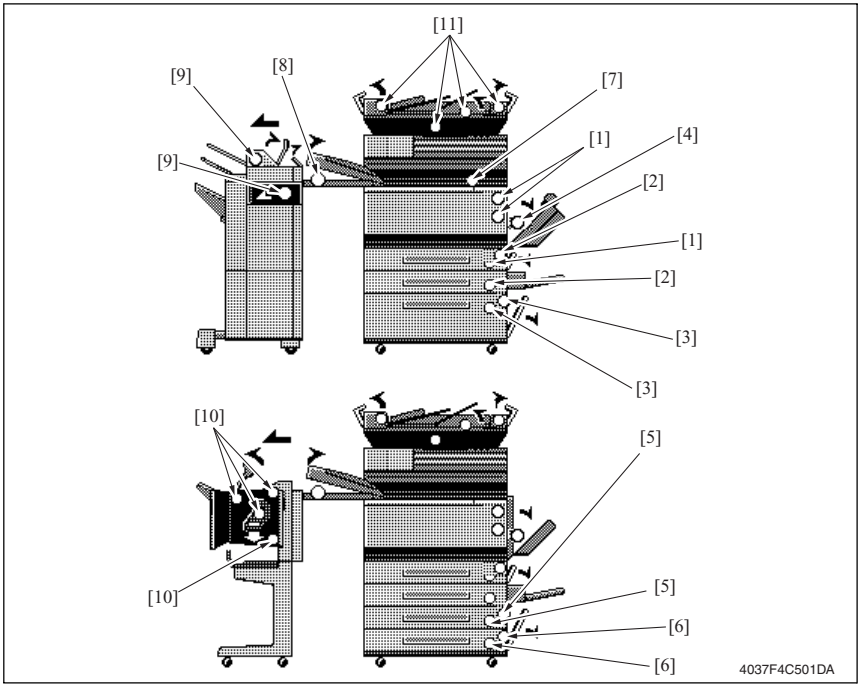
Blank Page

Troubleshooting

15. Jam Display

15.1 Misfeed Display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the Touch Panel of the machine.



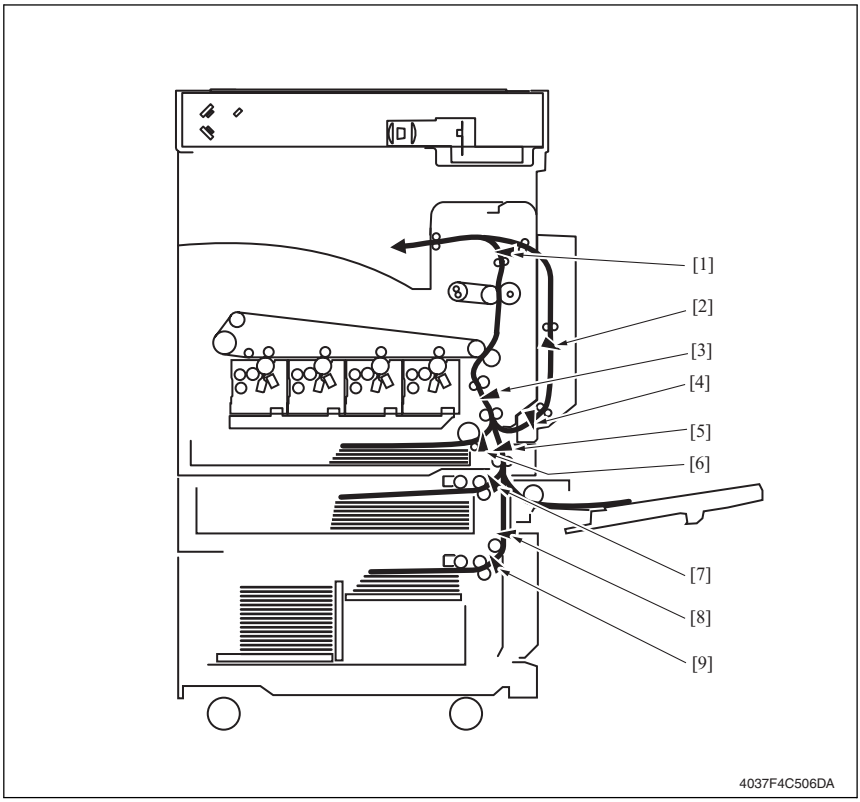
Display	Code	Misfeed Location	misfeed processing location	Action
[1]	1101	Tray 1 take-up	Right Door	☞ 310
	3001	2nd Image Transfer		
[2]	1201	Tray 2 take-up	Tray 2 Right Door	☞ 311
	2001	Vertical Transport		
	1001	Manual Bypass take-up	Manual Bypass Slide Board	
[3]	1501	LCT take-up	LCT Right Door	☞ 313
	2001	Vertical Transport		
[4]	9301	Duplex Unit transport	Duplex Unit Right Door	☞ 316
	9201	Duplex Unit pre-registration		
[5]	1301	Tray 3 take-up	Paper Feed Unit Right Door	☞ 314
	2001	Vertical Transport		
[6]	1401	Tray 4 take-up		☞ 315
	2001	Vertical Transport		
[7]	3201	Exit	Right Door	☞ 317
[8]	7403	Horizontal transport	Horizontal transport cover	☞ FS-507 ☞ FS-603
[9]	7401 7402 7404 7405 7406	Finisher FS-507 / Job Separator JS-601	Finisher Door	☞ FS-507
[10]	7401 7403 7404 7405 7407	Finisher FS-603	Finisher Door	☞ FS-603
[11]	6401 6402 6403 6404	ADF	Document Feeder Door	☞ Duplex
—	9901	System Control Jam	—	—

15.1.1 Misfeed Display Resetting Procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

15.2 Sensor layout

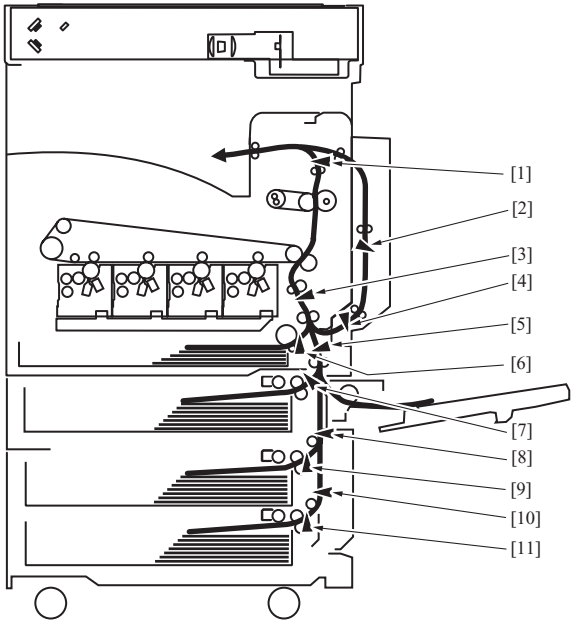
15.2.1 System Mounted with PC-402.



[1]	Exit Sensor	PC30	[5]	Tray 2 Vertical Transport Sensor	PC108
[2]	Duplex Unit Transport Sensor 1	PI1-DU	[6]	Tray 1 Double Feed Sensor	PC1
[3]*1	Registration Roller Sensor	PC28	[7]	Tray 2 Paper Take-Up Sensor	PC107
[3]*1	OHP Sensor	PC27	[8]	LCT Vertical Transport Sensor	PC2-LCT
[4]	Duplex Unit Transport Sensor 2	PC1-DU	[9]	LCT Paper Feed Sensor	PC1-LCT

*1: Two different types of sensors are located in the area near [3].

15.2.2 System Mounted with PC-202.



[1]	Exit Sensor	PC30	[6]	Tray 1 Double Feed Sensor	PC1
[2]	Duplex Unit Transport Sensor 1	PI1-DU	[7]	Tray 2 Paper Take-Up Sensor	PC107
[3]*1	Registration Roller Sensor	PC28	[8]	Tray 3 Vertical Transport Sensor	PC117-PF
[3]*1	OHP Sensor	PC27	[9]	Tray 3 Paper Take-Up Sensor	PC116-PF
[4]	Duplex Unit Transport Sensor 2	PC1-DU	[10]	Tray 4 Vertical Transport Sensor	PC126-PF
[5]	Tray 2 Vertical Transport Sensor	PC108	[11]	Tray 4 Paper Take-Up Sensor	PC125-PF

*1: Two different types of sensors are located in the area near [3].

15.3 Solution

15.3.1 Initial Check Items

- When a paper misfeed occurs, first make checks of the following initial check items

Check Item	Action
Does paper meet product specifications?	Change paper.
Is paper curled, wavy, or damp.	Change paper. Instruct user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or change the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at correct position to accommodate paper?	Set as necessary.
Are actuators found operational as checked for correct operation?	Correct or change the defective actuator.

15.3.2 Tray 1 take-up, 2nd Image Transfer, Fusing Misfeed

A. Detection Timing

Type	Description
2nd Image Transfer, Fusing misfeed detection	The leading edge of the paper does not block the Exit Sensor (PC30) even after the lapse of a given period of time after the Registration Roller Clutch has been energized.
	The Registration Roller Sensor (PC28) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper. (Except when feeding the paper from Tray 1)
Tray 1 take-up misfeed detection	The leading edge of the paper does not block the Registration Roller Sensor (PC28) even after the lapse of a given period of time after the Tray 1 Paper Feed Clutch (CL1) has been energized. (When the system speed is 60 mm/s or 165 mm/s)
	The leading edge of the paper does not block the OHP Sensor (PC27) after the lapse of a given period of time after the Tray 1 Paper Feed Clutch (CL1) has been energized. (When the system speed is 215 mm/s)
Misfeed detected as a result of delayed deactivation of sensor	The Registration Roller Sensor (PC28) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper. (When the system speed is 60/mms or 165 mm/s)
	The OHP sensor (PC27) is not unblocked even after the lapse of a given period of time after PC27 has been blocked by the paper. (When the system speed is 215 mm/s)
Detection of paper left in 2nd Image Transfer	The Registration Roller Sensor (PC28) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The OHP Sensor (PC27) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Detection of paper left in Tray 1	Tray 1 Double Feed Sensor (PC1) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Tray 1 Double Feed Sensor (PC1) Registration Roller Sensor (PC28) Exit Sensor (PC30) OHP Sensor (PC27)	Control Board (PWB-MC) Registration Roller Clutch (CL3) Tray 1 Paper Feed Clutch (CL1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-MC PJ22MC-8 (ON)	C to D-5
3	PC28 I/O check, Sensor check	PWB-MC PJ24MC-6 (ON)	C to D-3
4	PC30 I/O check, Sensor check	PWB-MC PJ24MC-12 (ON)	C to D-4
5	PC27 I/O check, Sensor check	PWB-MC PJ24MC-2 (ON)	C to D-3
6	CL3 operation check	PWB-MC PJ24MC-14 (ON)	C to D-4
7	CL1 operation check	PWB-MC PJ14MC-3 (ON)	C to D-5 to 6
8	Change PWB-MC	—	—

15.3.3 Tray 2 take-up, Vertical Transport, Multiple Bypass take-up

A. Detection Timing

Type	Description
Tray 2 take-up, Vertical Transport misfeed detection	The leading edge of the paper does not block the Tray 2 Vertical Transport Sensor (PC108) even after the lapse of a given period of time after the Tray 2 Paper Feed Motor has been energized.
	The Registration Roller Sensor (PC28) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 2 Vertical Transport Sensor (PC108).
Misfeed detected at Bypass	The leading edge of the paper does not block the Tray 2 Vertical Transport Sensor (PC108) even after the lapse of a given period of time after the Bypass Paper Feed Clutch has been energized.
Paper left at Tray 2 or Bypass	Tray 2 Vertical Transport Sensor (PC108) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Paper left at Tray 2	Tray 2 Paper Take-Up Sensor (PC107) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray 2 Vertical Transport Sensor (PC108) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Tray 2 take-up, Vertical Transport

Relevant Electrical Parts	
Tray 2 Paper Take-Up Sensor (PC107) Tray 2 Vertical Transport Sensor (PC108) Registration Roller Sensor (PC28) Tray 2 Paper Feed Motor (M102)	Tray 2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC107 I/O check, Sensor check	PWB-Z PJ6Z-8 (ON)	T to U-26
3	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	T to U-27
4	PC28 I/O check, Sensor check	PWB-MC PJ24MC-6 (ON)	C to D-3
5	M102 operation check	PWB-Z PJ5Z-1 to 4	T to U-22
6	Change PWB-Z	—	—

Manual Bypass take-up

Relevant Electrical Parts	
Tray 2 Vertical Transport Sensor (PC108) Bypass Paper Feed Clutch (CL101)	Tray 2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	T to U-27
3	CL101 operation check	PWB-Z PJ7Z<B>-14 (ON)	T to U-24
4	Change PWB-Z	—	—

15.3.4 LCT Take-up and Vertical Transport Misfeed (PC-402)

A. Detection Timing

Type	Description
Misfeed detected at LCT take-up or Vertical Transport Section	The leading edge of the paper does not block the LCT Transport Roller Motor (PC2-LCT) even after the lapse of a given period of time after the Paper Feed Motor has been energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the paper has blocked the LCT Transport Roller Motor (PC2-LCT).
Paper left at LCT	The LCT Vertical Transport Sensor (PC2-LCT) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Paper Feed Sensor (PC1-LCT) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray 2 Vertical Transport Sensor (PC108) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Paper Feed Sensor (PC1-LCT) LCT Vertical Transport Sensor (PC2-LCT) Tray 2 Vertical Transport Sensor (PC108) Paper Feed Motor (M1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-2	PC-402 C-7 to 8
3	PC2-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-5	PC-402 C-7
4	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	T to U-27
5	M1-LCT operation check	PWB-C1 LCT PJ6C1 LCT-1 to 4	PC-402 C-8
6	Change PWB-C1 LCT	—	—

15.3.5 Tray 3 Take-up and Vertical Transport Misfeed (PC-102/PC202)

A. Detection Timing

Type	Description
Misfeed detected at Tray 3 take-up or Vertical Transport Section	The leading edge of the paper does not block the Tray 3 Vertical Transport Sensor (PC117-PF) even after the lapse of a given period of time after the Tray 3 Paper Feed Motor has been energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 3 Vertical Transport Sensor (PC117-PF).
Paper left at Tray 3	The Tray 3 Vertical Transport Sensor (PC117-PF) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray 3 Paper Take-Up Sensor (PC116-PF) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray 3 Vertical Transport Sensor (PC117-PF) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Tray 3 Paper Take-Up Sensor (PC116-PF) Tray 3 Vertical Transport Sensor (PC117-PF) Tray 2 Vertical Transport Sensor (PC108) Tray 3 Paper Feed Motor (M122-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC116-PF I/O check, Sensor check	PWB-C2 PF PJ6C2PF-8 (ON)	PC-202 C-4
3	PC117-PF I/O check, Sensor check	PWB-C2 PF PJ6C2PF-11 (ON)	PC-202 C-4
4	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	T to U-27
5	M122-PF operation check	PWB-C2 PF PJ5C2PF-1 to 4	PC-202 C-4
6	Change PWB-C2 PF	—	—

15.3.6 Tray 4 Take-up and Vertical Transport Misfeed (PC202)

A. Detection Timing

Type	Description
Misfeed detected at Tray 4 take-up or Vertical Transport Section	The leading edge of the paper does not block the Tray 4 Vertical Transport Sensor (PC126-PF) even after the lapse of a given period of time after the Tray 4 Paper Feed Motor has been energized.
	The Tray 3 Vertical Transport Sensor (PC117-PF) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 4 Vertical Transport Sensor (PC126-PF).
Paper left at Tray 4	The Tray 4 Vertical Transport Sensor (PC126-PF) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray 4 Paper Take-Up Sensor (PC125-PF) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray 4 Paper Take-Up Sensor (PC125-PF) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Tray 4 Paper Take-Up Sensor (PC125-PF) Tray 4 Vertical Transport Sensor (PC126-PF) Tray 3 Vertical Transport Sensor (PC117-PF) Tray 4 Paper Feed Motor (M123-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC125-PF I/O check, Sensor check	PWB-C2 PF PJ10C2PF-8 (ON)	PC-202 G-6
3	PC126-PF I/O check, Sensor check	PWB-C2 PF PJ11C2PF-2 (ON)	PC-202 G-6
4	PC117-PF I/O check, Sensor check	PWB-C2 PF PJ6C2PF-11 (ON)	PC-202 C-4
5	M123-PF operation check	PWB-C2 PF PJ9C2PF-1 to 4	PC-202 G to H-6 to 7
6	Change PWB-C2 PF	—	—

15.3.7 Duplex Transport Misfeed

A. Detection Timing

Type	Description
Misfeed detected at Duplex Transport Section	The Registration Roller Sensor (PC28) is not blocked even after the lapse of a given period of time after a Duplex paper take-up sequence has been started.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not blocked even after the lapse of a given period of time after the paper has blocked the Duplex Unit Transport Sensor 1 (PI1-DU).
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Paper left at Duplex Transport Section	Duplex Unit Transport Sensor 1 (PI1-DU) or Duplex Unit Transport Sensor 2 (PC1-DU) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Registration Roller Sensor (PC28) Duplex Unit Transport Sensor 1 (PI1-DU) Duplex Unit Transport Sensor 2 (PC1-DU) Switchback Motor (M1-DU) Duplex Unit Transport Motor (M2-DU)	Duplex Control Board (PWB-A DU) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC28 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	T to U-27
3	PI1-DU I/O check, Sensor check	—	Duplex Unit E-6
4	PC1-DU I/O check, Sensor check	—	Duplex Unit C-6
5	M1-DU operation check	PWB-A DU PJ3A-1 to 4	Duplex Unit C-5
6	M2-DU operation check	PWB-A DU PJ2A-1 to 4	Duplex Unit C-5
7	Change PWB-A DU	—	—
8	Change PWB-MC	—	—

15.3.8 Fusing/Exit Misfeed

A. Detection Timing

Type	Description
Misfeed detected at Fusing/Exit Section	PC30 is not unblocked even after the lapse of a given period of time after the paper has blocked the Exit Sensor (PC30).
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not blocked even after the lapse of a given period of time after the Exit Sensor (PC30) has been unblocked by the paper during a switchback sequence.
Paper left at Exit Section	Exit Sensor (PC30) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Exit Sensor (PC30) Duplex Unit Transport Sensor 1 (PI1-DU)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC30 I/O check, Sensor check	PWB-MC PJ24MC-12 (ON)	C~D-4
3	PI1 I/O check, Sensor check	—	Duplex Unit E-6
4	Change PWB-MC	—	—

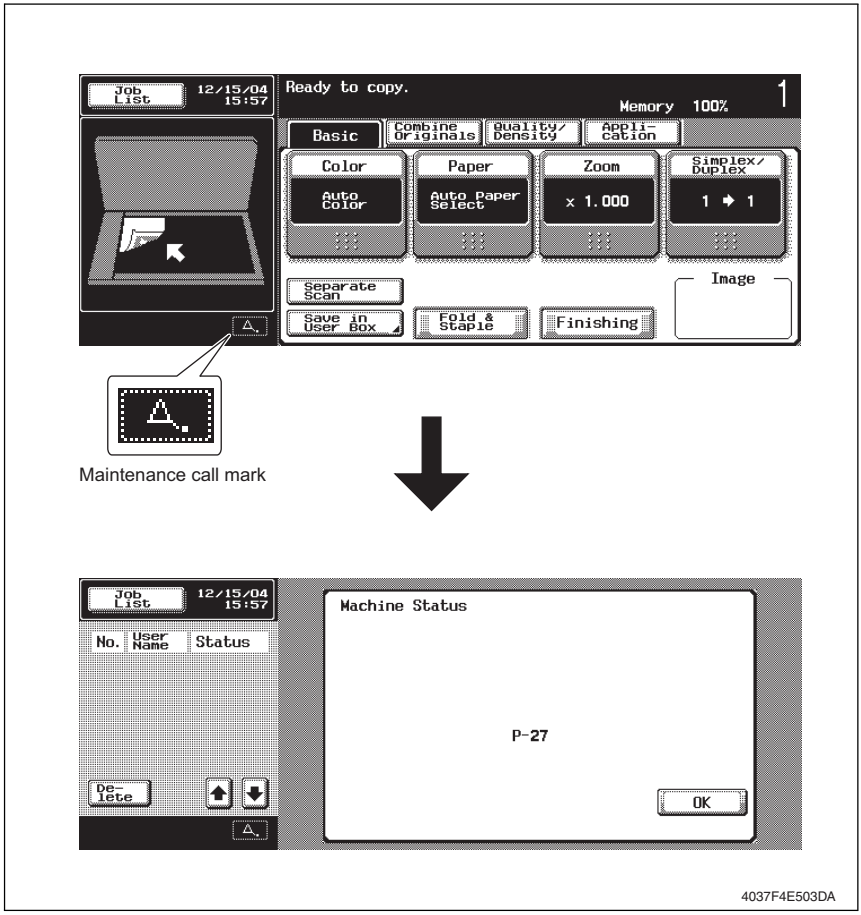
16. Malfunction code

16.1 Restarting

- This machine automatically performs a restarting sequence if a minor fault that would not damage the machine occurs during operation.
- No screen information is given for the restarting sequence.
- On completing the restarting sequence, the machine restores its operation to its ordinary condition.

16.2 Alert code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.
- Touching the maintenance call mark will display the corresponding warning code on the State Confirm screen.



16.2.1 Alert list

- If an image stabilization or Scanner fault occurs, the corresponding warning code appears.

Code	Item	Description
S-1	CCD clamp gain adjustment failure	• It is detected that the CCD clamp gain adjustment value is faulty.
P-5	IDC Sensor (Front) failure	• The output from the photoreceiver of the IDC Sensor that takes a reading of a point of a bare surface on the Transfer Belt is 4.3 V or more during an adjustment of the IDC Sensor. • The output from the photoreceiver of the IDC Sensor that takes a reading of a point in a toner pattern on the Transfer Belt is 1.0 V or less after the adjustment has been completed.
P-28	IDC Sensor (Back) failure	
P-6	Cyan Imaging Unit failure	• All density readings taken from the density pattern produced on the Transfer Belt are 0.5 g/m^2 (IDC Sensor photoreceiver output) or less during max. density adjustment (Vg/Vdc adjustment).
P-7	Magenta Imaging Unit failure	
P-8	Yellow Imaging Unit failure	
P-9	Black Imaging Unit failure	
P-21	Color Shift Test Pattern failure	• The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the Sub Scan Direction is more or less than the specified value during sub scan direction registration correction.
P-22	Color Shift Test Pattern failure	• The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction. • The skew correction amount is greater than the specified value.
P-26	ATVC (K) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of Black.
P-27	ATVC (2nd) failure	• An abnormal average value is detected during an adjustment of the second image transfer ATVC value.
P-29	ATVC (color) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of color.
P-30	Color PC Drum Main Sensor malfunction	• The output from the Color PC Drum Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the Color PC Drum Motor is turning stably and the Lock signal is active (LOW-0).
P-31	K PC Drum Main Sensor malfunction	• The output from the Color PC Drum Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the K PC Motor is turning stably and the Lock signal is active (LOW-0).

16.3 Solution

16.3.1 S-1: CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action
1	Correct the harness connection between PWB-A and PWB-C if faulty.
2	Check for possible extraneous light and correct as necessary.
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.
5	Change PWB-A.
6	Change PWB-C.

16.3.2 P-5: IDC Sensor (Front) failure

16.3.3 P-28 IDC Sensor (Back) failure

Relevant Electrical Parts	
IDC / Registration Sensor /1 (PC8) IDC / Registration Sensor /2 (PC9)	Control Board (PWB-MC) Image Transfer Belt Unit

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.
3	Reinstall or reconnect PC8 or PC9 if it is installed or connected improperly.
4	Clean PC8 or PC9 if it is dirty
5	Open and close the Left Door, run an image stabilization sequence, and select “State Confirmation” → “Level History 1” to check the IDC value. IDC1: PC8, IDC2: PC9 If the value is 1.0 V or less, change PC8 or PC9.
6	Change PWB-MC

16.3.4 P-6: Cyan Imaging Unit failure

16.3.5 P-7: Magenta Imaging Unit failure

16.3.6 P-8: Yellow Imaging Unit failure

16.3.7 P-9: Black Imaging Unit failure

Relevant Electrical Parts	
Imaging Unit C Imaging Unit M Imaging Unit Y Imaging Unit K	Image Transfer Belt Unit

Step	Action
1	Select “Image Process Adjustment” → “D Max Density” and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the Imaging Unit and correct as necessary.
3	Clean the IDC Sensor window if dirty
4	Clean the contact of the Imaging Unit connector if dirty
5	Change Imaging Unit.
6	Change the Image Transfer Belt Unit.

16.3.8 P-21: Color Shift Test Pattern failure

Relevant Electrical Parts	
Image Transfer Belt Unit	

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.

16.3.9 P-22: Color Shift Adjust failure

Relevant Electrical Parts	
IDC / Registration Sensor /1 (PC8)	IDC / Registration Sensor /2 (PC9)

Step	Action
1	Check the LED retraction lever for locked position and, if there is any faulty condition evident, slide out the Imaging Unit and reinstall it in position.
2	Reinstall or reconnect PC8 or PC9 if it is installed or connected improperly.
3	Check the Vertical Transport Guide for installed position and correct as necessary.

16.3.10 P-26: 1st image transfer ATVC (Black) failure

16.3.11 P-27: 2nd image transfer ATVC failure

16.3.12 P-29: 1st image transfer ATVC (Color) failure

Relevant Electrical Parts	
High Voltage Unit/2 (HV2) Control Board (PWB-MC)	Image Transfer Belt Unit

Step	Action
1	Check the contact of the Transfer Belt Unit and that of HV2 for connection and clean or correct the contact as necessary.
2	Change the Image Transfer Belt Unit.
3	Change HV2.
4	Change PWB-MC.

16.3.13 P-30: Color PC Drum Sensor malfunction

Relevant Electrical Parts	
Color PC Drum Main Sensor (PC10) Color PC Drum Sub Sensor (PC35)	Control Board (PWB-MC)

Step	Action
1	Reinstall or reconnect PC10 or PC35 if it is installed or connected improperly.
2	Clean PC10 or PC35 if it is dirty
3	Open and close the Left Door to reset the fault.
4	If P-30 occurs again, change PC10 or PC35.
5	Change PWB-MC.

16.3.14 P-31: Black PC Drum Sensor malfunction

Relevant Electrical Parts	
K PC Drum Main Sensor (PC11) K PC Drum Sub Sensor (PC36)	Control Board (PWB-MC)

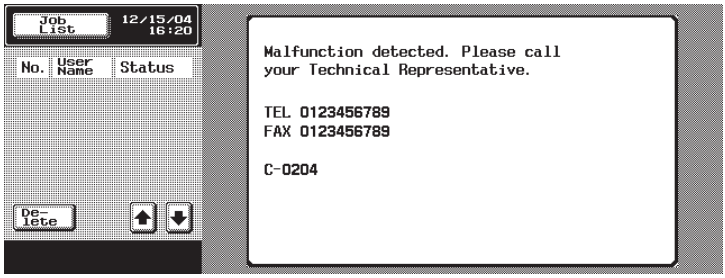
Step	Action
1	Perform the faulty sensor check procedure *1.
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-31 persists, change the sensor which was found faulty.
5	Change PWB-MC.

*1: Faulty sensor check procedure

1. Open the Front Door and turn ON the Main Power Switch of the machine.
2. Call the “Sensor Check” screen to the screen by way of Service Mode.
3. Close the Front Door and start “Stabilizer.”
4. During the Stabilizer sequence, check to see if the values of the phase detection sensors (Color PC Drum Main/Sub and K PC Drum Main/Sub Sensors) change.
5. A sensor is faulty if its value does not change.

16.4 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.



4037F4E505DA

16.4.1 Trouble code list

* For the details of the malfunction codes of the options, see the Service Manual for the corresponding option.

Code	Item	Description	Rank
C0001	LCT communications error	☞ See PC-402 Service Manual.	B
C0102	LCT Vertical Transport Motor malfunction		B
C0204	Tray 2 Elevator failure	• The Lift-up Sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	B
C0206	Tray 3 Elevator failure	☞ See PC-102/PC-202 Service Manual.	B
C0208	Tray 4 Elevator failure		B
C0209	LCT Elevator Motor malfunction (Elevator malfunction)	☞ See PC-402 Service Manual.	B
C0210	LCT ascent motion failure		B
C0211	Bypass lifting motion failure	• The Bypass Lift-up Sensor is not blocked even when the Tray 2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the standby position to the take-up position was started. • The Bypass Lift-up Sensor is not unblocked even when the Tray 2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the take-up position to the standby position was started.	B
C0212	LCT Shift Motor malfunction	☞ See PC-402 Service Manual.	B
C0213	LCT shifting failure		B
C0214	LCT ejection failure		B
C0215	LCT Shift Gate malfunction		B

Code	Item	Description	Rank
C0301	Suction Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C0351	Paper Cooling Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C1180	Finishing option transport system malfunction	☞ See FS-507or FS-603 Service Manual.	B
C1181	Finishing option Paddle Motor malfunction		B
C1182	Finishing option Shift Motor mechanism malfunction		B
C1183	Finishing option Elevator drive malfunction		B
C1190	Finishing option Aligning Bar moving mechanism malfunction		B
C1192	Finishing option Front Aligning Motor malfunction		B
C1193	Finishing option Rear Aligning Motor malfunction		B
C11A1	Finishing option Exit Roller pressure/retraction failure		B
C11A2	Finishing option Storage Roller pressure/retraction failure		B
C11A4	Finishing option Exit Motor malfunction		B
C11B0	Finishing option Stapler Unit CD drive failure		B
C11B1	Finishing option Stapler Unit Slide Motor malfunction		B
C11B2	Finishing option stapling mechanism malfunction 1		B
C11B3	Finishing option stapling mechanism malfunction 2		B
C11B4	Finishing option Staple/Folding Motor malfunction		B
C11C0	Punch Motor malfunction		B
C11C1	Finishing option Punch Cam Motor drive failure		C
C11C2	Finishing option Punch Unit Board malfunction		C
C11C3	Finishing option Punch Side Registration Motor malfunction		C
C11C4	Finishing option Punch Motor malfunction		C
C11C5	Finishing option Punch Sensor malfunction		C

Code	Item	Description	Rank
C1401	Finishing option Backup RAM failure	☞ See FS-507or FS-603 Service Manual.	B
C2151	2nd Image Transfer Roller pressure/retraction failure	• The 2nd Image Transfer Pressure Position Sensor is not activated (retracted position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's retracting motion. • The 2nd Image Transfer Pressure Position Sensor is not deactivated (pressed position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's pressing motion.	B
C2152	Image Transfer Belt pressure/ retraction failure	• The 1st Image Transfer Retraction Position Sensor is not activated (retracted position) within 5 sec. after the 1st Image Transfer Pressure/ Retraction Motor has started turning during a sequence of the Transfer Belt's retracting motion. • The 1st Image Transfer Retraction Position Sensor is not deactivated (pressed position) within 1 sec. after the 1st Image Transfer Pressure/ Retraction Motor has started turning during a sequence of the Transfer Belt's pressing motion.	B
C2160	Cyan PC Drum Charge Corona malfunction	• An output is automatically produced from the PC Drum Charge Corona of each color when the malfunction resetting procedure is performed after C2164 (PC Drum Charge Corona malfunction) has been detected. The SCD signal is detected for a continuous 0.5-sec. period at this time.	B
C2161	Magenta PC Drum Charge Corona malfunction		B
C2162	Yellow PC Drum Charge Corona malfunction		B
C2163	Black PC Drum Charge Corona malfunction		B
C2164	PC Drum Charge Corona malfunction	• The SCD signal is detected for a continuous 0.5-sec. period while the PC Drum Charge Corona is being energized.	B
C2251	K PC Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2252	K PC Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C2253	Color PC Drum Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	BB
C2254	Color PC Drum Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C2255	Color Developing Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2256	Color Developing Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B

Code	Item	Description	Rank
C2257	Cleaning Brush Motor failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2258	Cleaning Brush Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C2351	Toner Suction Fan Motor/K's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2352	Toner Suction Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C2451	New Transfer Belt Unit resetting failure	• A new installation is not detected when a new Transfer Cleaner Unit (Image Transfer Belt Unit) is installed.	B
C2551	Abnormally low toner density detected Cyan TCR Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2552	Abnormally high toner density detected Cyan TCR Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2553	Abnormally low toner density detected Magenta TCR Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2554	Abnormally high toner density detected Magenta TCR Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2555	Abnormally low toner density detected Yellow TCR Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2556	Abnormally high toner density detected Yellow TCR Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2557	Abnormally low toner density detected Black TCR Sensor	• T/C 3 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B
C2558	Abnormally high toner density detected Black TCR Sensor	• T/C 12 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.	B

Code	Item	Description	Rank
C2559	Cyan TCR Sensor adjustment failure	• TCR Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.	B
C255A	Magenta TCR Sensor adjustment failure		B
C255B	Yellow TCR Sensor adjustment failure		B
C255C	Black TCR Sensor adjustment failure		B
C2651	Cyan Imaging Unit EEPROM access error	• A condition of “EEPROM is not connected” or “There is an access error” is detected in EEPROM of the Imaging Unit.	C
C2652	Magenta Imaging Unit EEPROM access error		C
C2653	Yellow Imaging Unit EEPROM access error		C
C2654	Black Imaging Unit EEPROM access error		C
C2655	Cyan LPH correction data download failure	• An error is detected while the LPH correction data is being downloaded from EEPROM of LPH to PWB-MFPC when the Main Power Switch is turned ON.	C
C2656	Magenta LPH correction data download failure		C
C2657	Yellow LPH correction data download failure		C
C2658	Black LPH correction data download failure		C
C3101	Fusing Pressure Roller pressure/retraction failure	• No change is observed in the encoder sensor pulse even after the lapse of 0.5 sec. after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller’s retracting motion. • No change is observed in the encoder sensor pulse even after the lapse of 0.5 sec. after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller’s pressing motion. • The Fusing Pressure Position Sensor is not activated (pressed position) even when 30 encoder sensor pulses are counted after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller’s pressing motion.	B
C3201	Fusing Drive Motor’s failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C3202	Fusing Drive Motor turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C3301	Fusing Cooling Fan Motor/1 failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B

Code	Item	Description	Rank
C3302	Fusing Cooling Fan Motor/1 or Fusing Cooling Fan Motor/2 failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C3451	Heating Roller warm-up failure	• The temperature of the Heating Roller does not reach 100 °C within 50 sec. after the Heating Roller Heater Lamp has been turned ON. • The temperature of the Heating Roller does not reach 100 °C and that of the Fusing Pressure Roller does not reach 195 °C within 200 sec. after the Heating Roller Heater Lamp has been turned ON. • The voltage of the Heating Roller Thermistor does not increase by five steps within 20 sec. after the Heating Roller Heater Lamp has been turned ON. • No zero cross signal is detected even with the lapse of 1 sec. or more after the Heating Roller Heater Lamp has been turned ON.	A
C3452	Fusing Pressure Roller warm-up failure	• The voltage of the Fusing Pressure Roller Thermistor does not increase by five steps within 20 sec. after the predrive of the Fusing Roller has been started during a warm-up cycle.	A
C3461	New Fusing Unit resetting failure	• A new installation is not detected when a new Fusing Unit is installed.	B
C3751	Heating Roller abnormally high temperature	• A temperature of 225 °C or more of the Heating Roller is detected for 1 sec. or more.	A
C3752	Fusing Pressure Roller abnormally high temperature	• A temperature of 190 °C or more of the Fusing Pressure Roller is detected for 1 sec. or more before the start of the heater temperature control. • A temperature of 215 °C or more of the Fusing Pressure Roller is detected for 1 sec. or more after the start of the heater temperature control.	A
C3851	Heating Roller abnormally low temperature	• No zero cross signal is detected even with the lapse of 1 sec. or more during a standby state, print cycle, or Power Save. • A temperature of 120 °C or less of the Heating Roller is detected for 1 sec. or more during a standby state. • A temperature of 120 °C or less of the Heating Roller is detected for 1 sec. or more during a print cycle. • A temperature of 70 °C or less of the Heating Roller is detected for 1 sec. or more during Power Save.	A
C3852	Fusing Pressure Roller abnormally low temperature	• . A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during a standby state. • A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during a print cycle. • A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during Power Save.	A

Code	Item	Description	Rank
C4705	Printer Time Out	• No image data is output from the MFP Control Board (PWB-MFPC).	C
C4761	Compression hardware timeout	• The hardware involved with the compression function offered by the MFP Control Board (PWB-MFPC) does not respond.	C
C4765	Extraction hardware timeout	• The hardware involved with the extraction function offered by the MFP Control Board (PWB-MFPC) does not respond.	C
C4770	JBIG0 Error	• Memory of the MFP Control Board (PWB-MFPC) is faulty.	C
C4771	JBIG1 Error		C
C4772	JBIG2 Error		C
C4773	JBIG3 Error		C
C4780	Compressor 0 command buffer stop failure	• The MFP Control Board (PWB-MFPC) is faulty.	C
C4781	Compressor 1 command buffer stop failure		C
C4782	Compressor 2 command buffer stop failure		C
C4783	Compressor 3 command buffer stop failure		C
C5102	Main Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C5103	Main Motor turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C5351	Power Supply Cooling Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5353	Cooling Fan Motor 2's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5354	Ozone Ventilation Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5355	Cooling Fan Motor 3's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5356	Cooling Fan Motor 1's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5370	MFP Control Board Cooling Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	C

Code	Item	Description	Rank
C6102	Scanner Home Sensor malfunction	• The Scanner Home Sensor is unable to detect the Scanner located at its home position. • The Scanner Home Sensor is unable to detect a Scanner even when the Scanner Motor has been driven to move the Scanner over the maximum traveling distance. • The Scanner Home Sensor detects the Scanner when the Scanner has moved 5 mm from the position, at which it blocks the Scanner Home Sensor.	B
C6103	Scanner overrun failure	• The Scanner Home Sensor detects the Scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.	B
C6301	Scanner Cooling Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C6704	Scanner Time Out	• Image data is not input from the Image Processing Board (PWB-C) to the MFP Control Board (PWB-MFPC).	C
C6751	CCD clamp/gain adjustment failure	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.	B
C9401	Exposure Lamp's failure to turn ON	• The output from the CCD Sensor is a predetermined value or less during CCD Sensor gain adjustment.	A
C9402	Exposure Lamp turning ON at abnormal timing	• The average output value of the CCD Sensor with the Scanner at its standby position is a predetermined value or more at the end of a scan job.	A
CA051	Standard controller configuration failure	• The controller of the MFP Control Board (PWB-MFPC) is faulty.	C
CA052	Controller hardware error	• A controller hardware error is detected in the network I/F.	C
CA053	Controller start failure	• A controller start failure is detected in the controller interface.	C
CB001	FAX Board Error 1	☞ See FK-502 Service Manual.	C
CB002	FAX Board Error 2		C
CB003	FAX Board Error 3		C
CB051	FAX Board mount failure 1		C
CB052	FAX Board mount failure 2		C
CB110	FAX Driver Error: Instance Generation Error or Observer Registration Error		C
CB111	FAX Driver Error: Configuration Space Initialization NG		C
CB112	FAX Driver Error: Semaphore Acquisition, Release Error		C

Code	Item	Description	Rank
CB113	FAX Driver Error: Sequence Error among Main Body Tasks	☞ See FK-502 Service Manual.	C
CB114	FAX Driver Error: Message Queue Control Error		C
CB115	FAX Driver Error: Main Body - Sequence Error among FAX Boards		C
CB116	FAX Driver Error: FAX Board Nonresponse (Nonresponse after Initialization)		C
CB117	FAX Driver Error: ACK Waiting Timeout Error		C
CB118	FAX Driver Error: Receiving Undefined Frame		C
CB119	FAX Driver Error: DMA Transfer Error		C
CB120	JC Soft Error		C
CB122	Device Error (GA LOCAL SRAM)		C
CB123	Device Error (DRAM)		C
CB125	Device Error (GA)		C
CB126	Timeout Error due to Nonresponse from DC during Suspension Process		C
CB127	Timeout Error due to Nonresponse from CC during Suspension Process		C
CB128	Timeout Error due to Nonresponse from LINE during Suspension Process		C
CB129	Timeout Error due to Nonresponse from File System/File Driver during Suspension Process		C
CB130	MIF Driver Error: Driver Soft Error		C
CB131	MIF Driver Error: Reception Frame Length Error from Main		C
CB132	MIF Driver Error: Reception Frame Header Error from Main		C
CB133	MIF Driver Error: 232C i/f Sequence Error		C
CB134	MIF Driver Error: DPRAM i/f Sequence Error		C
CB135	MIF Driver Error: DPRAM CTL/ STL Register Error		C
CB136	MIF Driver Error: AKC Waiting Timeout		C

Code	Item	Description	Rank
CB137	MIF Driver Error: DPRAM RESET Reception	☞ See FK-502 Service Manual.	C
CB140	MSG I/F Error with JC		C
CB141	I/F Error with Main: I/F Error with Driver		C
CB142	I/F Error with Main: Undefined Command Reception		C
CB143	I/F Error with Main: Command Frame Length Error		C
CB144	I/F Error with Main: Command Parameter Length Error		C
CB145	I/F Error with Main: Undefined Parameter		C
CB146	I/F Error with Main: Command/ Response Sequence Error		C
CB150	Line Control: External Class Instance Acquisition Error		C
CB151	Line Control: Job Start Error (Starting Job Parameter Error/ Child Job Generation Error)		C
CB152	Line Control: Doc Access Error (Report Buf Access Error)		C
CB153	Line Control: Response Wait Timeout from External Task		C
CB154	Line Control: Internal Que Table Control Error (create/enque/ deque)		C
CB160	1 Destination Control: Instance Generation Error		C
CB161	1 Destination Control: Timeout Error		C
CB162	1 Destination Control: Interface Error		C
CB163	1 Destination Control: Message Que Control Error		C
CB164	1 Destination Control: Semaphore Acquisition Release Error		C
CB165	1 Destination Control: Observer Registration Error		C
CB166	1 Destination Control: Reception Resource Check Error		C
CB167	1 Destination Control: Deployment Error of Sending Image Information		C
CB168	1 Destination Control: Serialization Error of Receiving Image		C
CB169	1 Destination Control: Access Error to Quick Memory Data		C

Code	Item	Description	Rank
CB170	Page Control: Internal Que Table Control Error (create/enque/deque)	☞ See FK-502 Service Manual.	C
CB171	Page Control: Instance Generation Error		C
CB172	Page Control: Timeout Error		C
CB173	Page Control: Interface Error		C
CB174	Page Control: Semaphore Acquisition Release Error		C
CB175	Page Control: Observer Registration Error		C
CB176	Page Control: Unable to Check TTI Domain		C
CB177	Page Control: Error Return from TTI Rasterizer		C
CB178	Page Control: Receiving Job Generation Error		C
CB185	Page Control: Receiving Data Size Logic Error (Receiving Data are not Multiples of DotLine)		C
CB186	Page Control: ImageBuf Acquisition (alloc) Error		C
CB187	Page Control: Error Return from Compressor		C
CB188	Page Control: BandBuf Control Error (newInstance/get/free)		C
CC001	Vendor connection failure	• It is detected that communications with the vendor are interrupted for a given period of time or more with “Installed” selected for the setting of vendor installation.	C
CC151	ROM contents error upon startup (MSC)	• A fault is detected in a sequence of ROM contents check of the MSC (PWB-MFPC) during starting	C
CC152	ROM contents error upon startup (Scanner)	• A fault is detected in a sequence of ROM contents check of the PWB-C during starting.	C
CC153	ROM contents error upon startup (PRT)	• A fault is detected in a sequence of ROM contents check of the Control Board during starting.	C
CC154	ROM contents error upon startup (LPH)	• A fault is detected in a sequence of ROM contents check of the LPH Board during starting.	C
CC163	ROM contents error (PRT)	• The wrong model of firmware is detected in the engine during the initial connection to the engine is being checked.	C
CD002	JOB RAM save error	• The error in save of JOB data to the Memory/Hard Disk and its read error are detected.	C
CD004	Hard disk access error	• Unable to communicate between the hard disk and MFP Control Board (PWB-MFPC).	C

Code	Item	Description	Rank
CD005	Hard Disk Error 1	• Hard disk is faulty.	C
CD006	Hard Disk Error 2		C
CD007	Hard Disk Error 3		C
CD008	Hard Disk Error 4		C
CD009	Hard Disk Error 5		C
CD00A	Hard Disk Error 6		C
CD00B	Hard Disk Error 7		C
CD00C	Hard Disk Error 8		C
CD00D	Hard Disk Error 9		C
CD00E	Hard Disk Error A		C
CD00F	Hard disk data transfer error	• Data transfer from the hard disk is faulty.	C
CD010	Hard disk unformat	• Unformatted hard disk is connected.	C
CD011	Hard disk specifications error	• A hard disk that falls outside the specifications is connected.	C
CD012	Encryption ASIC setting error	• Initialization error of the encrypted ASIC is detected during the machine is starting.	
CD013	Encryption ASIC mounting error	• The faulty of the installation of encrypted ASIC is detected during the machine is starting.	
CD201	File Memory mounting error	• The File Memory mounted on the MFP Control Board (PWB-MFPC) is faulty.	C
CD202	Memory capacity discrepancy	• The capacity of the File Memory mounted on the MFP Control Board (PWB-MFPC) is short.	C
CD211	PCI-SDRAM DMA operation failure	• The hardware involved with image transfer in the memory of the MFP Control Board (PWB-MFPC) does not respond.	C
CD212	Compression/extraction timeout detection	• The hardware involved with the BTC compression function offered by the MFP Control Board (PWB-MFPC) does not respond.	C
CD221	NVRAM initialization failure	• Call responsible person of Konicaminolta.	-
CD222			-
CD223			-
CDCXX	• Call responsible person of Konicaminolta.		-
CE002	Message and Method parameter failure	• Unspecified data or parameter is detected.	C
CEEE1	MSC undefined malfunction occurring	• An undefined malfunction occurs in the MSC of the MFP Control Board (PWB-MFPC).	C
CEEE2	Scanner Section undefined malfunction	• An undefined malfunction occurs in the Scanner Section.	C
CEEE3	Engine Section undefined malfunction	• An undefined malfunction occurs in the Engine Section (PWB-MC, etc.).	C

- The machine displays an abort code (CFXXX) on the Touch Panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF001	CT_SingleList Table Abnormal	• MFP Control Board/Electronic sorting Board	C
CF002	CT_DoubleList Table Abnormal	• MFP Control Board/Electronic sorting Board	C
CF003	CT_DoubleList Table Abnormal	• MFP Control Board/Electronic sorting Board	C
CF004	CT_Queue Full Abnormal	• MFP Control Board/Electronic sorting Board	C
CF011	ArrayLink Abnormal	• MFP Control Board/Electronic sorting Board	C
CF012	FAT Link Abnormal	• MFP Control Board/Electronic sorting Board	C
CF013	File Size Abnormal	• MFP Control Board/Electronic sorting Board	C
CF021	setDelayMessage Table OverFlow	• MFP Control Board/Electronic sorting Board	C
CF022	procSetBootParamTcpipAd-dress() injustice	• MFP Control Board/Electronic sorting Board	C
CF023	MsgQue OverFlow	• MFP Control Board/Electronic sorting Board	C
CF031	getJobPageToIPE() page number injustice	• MFP Control Board/Electronic sorting Board	C
CF032	getJobHDDPageToIPE() page number injustice	• MFP Control Board/Electronic sorting Board	C
CF033	setDivTbl() limitation over	• MFP Control Board/Electronic sorting Board	C
CF034	HDDQUEUE Over Flow	• MFP Control Board/Electronic sorting Board	C
CF041	getAPPPtrFromAPPID() abnormal	• MFP Control Board/Electronic sorting Board	C
CF042	getAPPIndexFromAPPID() abnormal	• MFP Control Board/Electronic sorting Board	C
CF051	CC_InputPageEntry:operator[] page injustice	• MFP Control Board/Electronic sorting Board	C
CF061	IdeCommand_Set() status Abnormal	• MFP Control Board/Electronic sorting Board	C
CF062	IdeCommand_Set() parameter Abnormal	• MFP Control Board/Electronic sorting Board	C
CF091	PCI ASIC1 ERROR	• MFP Control Board/Electronic sorting Board	C
CF092	PCI ASIC2 ERROR	• MFP Control Board/Electronic sorting Board	C
CF093	PCI ASIC4 ERROR	• MFP Control Board/Electronic sorting Board	C
CF101	SCAN TIME OUT	• MFP Control Board/Electronic sorting Board	C
CF111	Compress TIME OUT	• MFP Control Board/Electronic sorting Board	C
CF112	Compress Table OverFlow	• MFP Control Board/Electronic sorting Board	C
CF113	Compress Table check	• MFP Control Board/Electronic sorting Board	C
CF121	Expand TIME OUT	• MFP Control Board/Electronic sorting Board	C
CF122	Expand Table OverFlow	• MFP Control Board/Electronic sorting Board	C
CF123	Expand ExpandLine Abnormal	• MFP Control Board/Electronic sorting Board	C
CF131	Print TIME OUT	• MFP Control Board/Electronic sorting Board	C
CF201	startIRReadAnd Compress()Sequence	• MFP Control Board/Electronic sorting Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF202	startWorkSave()Sequence Abnormal	• MFP Control Board/Electronic sorting Board	C
CF203	convAPItoIJCParameter()page Abnormal	• MFP Control Board/Electronic sorting Board	C
CF204	calcCompresserUse()CmpExpID Abnormal	• MFP Control Board/Electronic sorting Board	C
CF211	setParameterBandColorPlane() Table OverFlow	• MFP Control Board/Electronic sorting Board	C
CF212	convAPItoIJCParameter()page Abnormal	• MFP Control Board/Electronic sorting Board	C
CF213	calcExpandUse() CmpExpID Abnormal	• MFP Control Board/Electronic sorting Board	C
CF221	startPrintOutput outputsize zero	• MFP Control Board/Electronic sorting Board	C
CF222	Next request comes during processing of startPrintOutput ()	• MFP Control Board/Electronic sorting Board	C
CF223	Next request comes during processing of startWorkLoadOutput ()	• MFP Control Board/Electronic sorting Board	C
CF300	IR Bus Check Timeout	• MFP Control Board/Copier Board	C
CF411	Parity error	• MFP Control Board/Copier Board	C
CF421	Overrun error	• MFP Control Board/Copier Board	C
CF431	Parity error + Overrun error	• MFP Control Board/Copier Board	C
CF441	Framing error	• MFP Control Board/Copier Board	C
CF451	Parity error + Framing error	• MFP Control Board/Copier Board	C
CF461	Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF471	Parity error + Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF412	Parity error	• MFP Control Board/Copier Board	C
CF422	Overrun error	• MFP Control Board/Copier Board	C
CF432	Parity error + Overrun error	• MFP Control Board/Copier Board	C
CF442	Framing error	• MFP Control Board/Copier Board	C
CF452	Parity error + Framing error	• MFP Control Board/Copier Board	C
CF462	Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF472	Parity error + Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF510	Parity error	• MFP Control Board/Copier Board	C
CF520	Framing error	• MFP Control Board/Copier Board	C
CF530	Parity error + Framing error	• MFP Control Board/Copier Board	C
CF540	Overrun error	• MFP Control Board/Copier Board	C
CF550	Parity error + Overrun error	• MFP Control Board/Copier Board	C
CF560	Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF570	Parity error + Overrun error + Framing error	• MFP Control Board/Copier Board	C
CF580	Frame distortion of ADF	• MFP Control Board/Copier Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF600	Report receiving of print start that is out of sequence	• MFP Control Board/Engine	C
CF601	Report receiving of paper feeding that is out of sequence	• MFP Control Board/Engine	C
CF604	Outside IF/Command Queue	• MFP Control Board	C
CF614	“Output sequence” Queue	• MFP Control Board	C
CF624	Panel LCD date Queue	• MFP Control Board/Copier Board	C
CF704	Common data “Delete-waiting HDD accumulated job ID” Queue	• MFP Control Board/Electronic sorting Board	C
CF714	IRC/Command Queue	• MFP Control Board/Copier Board	C
CF724	Engine/Command Queue	• MFP Control Board/Engine	C
CF734	Panel/Command Queue	• MFP Control Board/Copier Board/Control Panel	C
CF744	File Memory Transfer start-waiting Command Queue	• MFP Control Board/Electronic sorting Board	C
CF754	File Memory Compression requesting Command Queue	• MFP Control Board/Electronic sorting Board	C
CF764	Panel instruction delete job Queue	• MFP Control Board	C
CF774	Warning delete job Queue	• MFP Control Board	C
CF784	Application instruction delete job Queue	• MFP Control Board	C
CF794	Output page information for Duplex back side Queue	• MFP Control Board	C
CF7A4	Paper feed completion output pate information Queue	• MFP Control Board	C
CF7B4	Exposure compaction output page information Queue	• MFP Control Board	C
CF7C4	Pre-discharge completion output page information Queue	• MFP Control Board	C
CF7D4	Touch panel coordinate data Queue	• MFP Control Board	C
CF7E4	Direct Key data Queue	• MFP Control Board	C
CF802	SIO Sending Port...ENG	• MFP Control Board/Engine	C
CF806	SIO Sending Port...IRC	• MFP Control Board/Copier Board	C
CF812	SIO Sending Port...Fiery	• MFP Control Board/External Control Interface Board	C
CF815	SIO Sending Port... PIC/PIC Terminal	• MFP Control Board	C
CF8ED	SIO Sending Port...EPNet	• MFP Control Board	C
CF902	SIO Receiving Port...ENG	• MFP Control Board/Engine	C
CF906	SIO Receiving Port...IRC	• MFP Control Board/Copier Board	C
CF912	SIO Receiving Port...Fiery	• MFP Control Board/External Control Interface Board	C
CF915	SIO Receiving Port... PIC/PIC Terminal	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF9ED	SIO Receiving Port...EPNet	• MFP Control Board	C
CFA01	getOneImgTransInfoFromTh() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA02	chkEnableAllocExec() default error	• MFP Control Board/Electronic sorting Board	C
CFA03	setTransBandAndRepeatNum() error	• MFP Control Board/Electronic sorting Board	C
CFA04	Application ID error	• MFP Control Board/Electronic sorting Board	C
CFA05	Thread selection image processing mode error	• MFP Control Board/Electronic sorting Board	C
CFA06	getOneImgIndexNumFromTh() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA07	setBufBandFromOut() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA08	chkStartOutput() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA09	rptReleaseMemResultACS() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA10	rptEndBandTrans() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA11	cancelTransExec() No applied thread	• MFP Control Board/Electronic sorting Board	C
CFA12	CC_ImgTransInfo:allocTransIndex	• MFP Control Board/Electronic sorting Board	C
CFA13	CC_MultiThreadProfile:rptBuf2MemClrEnd	• MFP Control Board/Electronic sorting Board	C
CFA21	Outside image input start	• MFP Control Board/Electronic sorting Board	C
CFA22	Inside image outside output start	• MFP Control Board/Electronic sorting Board	C
CFA23	Engine Input start	• MFP Control Board/Electronic sorting Board	C
CFA24	Buffer memory -> File memory transfer Start	• MFP Control Board/Electronic sorting Board	C
CFA25	BTC compression/CMM start	• MFP Control Board/Electronic sorting Board	C
CFA26	Inside image PCIBridegDMA input/output start	• MFP Control Board/Electronic sorting Board	C
CFA27	File memory -> Buffer memory transfer Start	• MFP Control Board/Electronic sorting Board	C
CFA28	BTC extension start	• MFP Control Board/Electronic sorting Board	C
CFA29	JPEG compression start	• MFP Control Board/Electronic sorting Board	C
CFA30	JPEG extension start	• MFP Control Board/Electronic sorting Board	C
CFA31	Software resolution conversion start	• MFP Control Board/Electronic sorting Board	C
CFA32	Hardware resolution conversion start	• MFP Control Board/Electronic sorting Board	C
CFA33	Software rotating processing start	• MFP Control Board/Electronic sorting Board	C
CFA34	Other Sequence malfunction	• MFP Control Board/Electronic sorting Board	C
CFA35	Buffer Array malfunction	• MFP Control Board/Electronic sorting Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFA36	Thread Service malfunction	• MFP Control Board/Electronic sorting Board	C
CFA37	Input image height 0	• MFP Control Board/Electronic sorting Board	C
CFA38	Output image width 0	• MFP Control Board/Electronic sorting Board	C
CFA41	pcbuf_exinput.cpp,h	• MFP Control Board/Electronic sorting Board	C
CFA42	pcbuf_inout.cpp,h	• MFP Control Board/Electronic sorting Board	C
CFA43	pcbuf_exoutput.cpp,h	• MFP Control Board/Electronic sorting Board	C
CFA61	DMA A	• MFP Control Board/Electronic sorting Board	C
CFA62	DMA B	• MFP Control Board/Electronic sorting Board	C
CFA63	DMA C	• MFP Control Board/Electronic sorting Board	C
CFA64	DMA D	• MFP Control Board/Electronic sorting Board	C
CFA65	DMA E	• MFP Control Board/Electronic sorting Board	C
CFA66	DMA F	• MFP Control Board/Electronic sorting Board	C
CFA67	DMA G	• MFP Control Board/Electronic sorting Board	C
CFA68	DMA H	• MFP Control Board/Electronic sorting Board	C
CFA69	DMA I	• MFP Control Board/Electronic sorting Board	C
CFA70	DMA J	• MFP Control Board/Electronic sorting Board	C
CFA71	Interruption	• MFP Control Board/Electronic sorting Board	C
CFA72	Common register setting	• MFP Control Board/Electronic sorting Board	C
CFA73	PCIBridgeDMA	• MFP Control Board/Electronic sorting Board	C
CFA74	BTC compression/Extension device	• MFP Control Board/Electronic sorting Board	C
CFA75	CMM	• MFP Control Board/Electronic sorting Board	C
CFB52	DMA_A error interruption	• MFP Control Board/Copier Board	C
CFB53	DMA_B error interruption	• MFP Control Board/Copier Board	C
CFB54	DMA_C error interruption	• MFP Control Board/Electronic sorting Board	C
CFB55	DMA_D 0 error interruption	• MFP Control Board/Engine	C
CFB56	DMA_D 1 error interruption	• MFP Control Board/Engine	C
CFB57	DMA_D 2 error interruption	• MFP Control Board/Engine	C
CFB58	DMA_D 3 error interruption	• MFP Control Board/Engine	C
CFB59	DMA_E error interruption	• MFP Control Board	C
CFB5A	DMA_F error interruption	• MFP Control Board/Electronic sorting Board	C
CFB5B	DMA_G error interruption	• MFP Control Board/External Control Interface Board	C
CFB5C	DMA_H error interruption	• MFP Control Board/Electronic sorting Board	C
CFB5D	DMA_I error interruption	• MFP Control Board	C
CFB5E	DMA_J error interruption	• MFP Control Board/Engine	C
CFB5F	Watch Dog Timer Error interruption	• MFP Control Board	C
CFB60	PCI slave error interruption	• MFP Control Board/FAX Board/Local I/F Board/ Electronic sorting Board/Copier Board	C
CFB61	Local bus error interruption	• MFP Control Board	C
CFB6E	Underrun at DMA_D 0 image output interface 1	• MFP Control Board/Electronic sorting Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFB6F	Underrun at DMA_D 1 image output interface 1	• MFP Control Board/Electronic sorting Board	C
CFB70	Underrun at DMA_D 2 image output interface 1	• MFP Control Board/Electronic sorting Board	C
CFB71	Underrun at DMA_D 3 image output interface 1	• MFP Control Board/Electronic sorting Board	C
CFB72	Underrun at DMA_G image output interface 1	• MFP Control Board/Electronic sorting Board	C
CFB73	Overflow at DMA_A/B image output interface 1	• MFP Control Board/Copier Board	C
CFB74	Underrun at DMA_F ASIC 1 image output interface	• MFP Control Board/Electronic sorting Board	C
CFB75	Overflow at DMA_C ASIC 1 image input interface	• MFP Control Board/Electronic sorting Board	C
CFB76	Target abort	• MFP Control Board	C
CFB77	Master abort	• MFP Control Board	C
CFB78	Forced stoppage	• MFP Control Board	C
CFB79	Retry error detection of PCI master	• MFP Control Board	C
CFB7A	Master read data parity error	• MFP Control Board	C
CFB7B	Master write data parity error	• MFP Control Board	C
CFB7C	System error	• MFP Control Board	C
CFB7D	Slave read data parity error	• MFP Control Board	C
CFB7E	Slave write data parity error	• MFP Control Board	C
CFB7F	Address parity error	• MFP Control Board	C
CFC01	Color Number faulty	• MFP Control Board	C
CFC02	Thread Sequence malfunction	• MFP Control Board	C
CFC03	Thread Service Sequence malfunction	• MFP Control Board	C
CFC04	Thread Message Q malfunction	• MFP Control Board	C
CFC12	Output of output buffer 2 surpasses clear.	• MFP Control Board	C
CFC13	Image transfer control information acquisition malfunction	• MFP Control Board	C
CFD00	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A0	• MFP Control Board/Copier Board	C
CFD01	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A1	• MFP Control Board/Copier Board	C
CFD02	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A2	• MFP Control Board/Copier Board	C
CFD03	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B0	• MFP Control Board/Copier Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFD04	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B1	• MFP Control Board/Copier Board	C
CFD05	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B2	• MFP Control Board/Copier Board	C
CFD06	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_C	• MFP Control Board/Electronic sorting Board	C
CFD07	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_D	• MFP Control Board/Electronic sorting Board	C
CFD08	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_E	• MFP Control Board	C
CFD09	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_F	• MFP Control Board/Electronic sorting Board	C
CFD0A	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_G	• MFP Control Board/External Control Interface Board	C
CFD0B	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H0	• MFP Control Board/Electronic sorting Board	C
CFD0C	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H1	• MFP Control Board/Electronic sorting Board	C
CFD0D	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H2	• MFP Control Board/Electronic sorting Board	C
CFD0E	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-I	• MFP Control Board	C
CFD0F	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-J	• MFP Control Board/Engine	C
CFD10	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA PCI Bridge	• MFP Control Board	C
CFD11	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA 19 ASIC1	• MFP Control Board/Electronic sorting Board	C
CFD12	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA JPEG	• MFP Control Board	C
CFD13	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA NO	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFE00	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A0	• MFP Control Board/Copier Board	C
CFE01	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_A1	• MFP Control Board/Copier Board	C
CFE02	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_A2	• MFP Control Board/Copier Board	C
CFE03	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B0	• MFP Control Board/Copier Board	C
CFE04	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B1	• MFP Control Board/Copier Board	C
CFE05	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B2	• MFP Control Board/Copier Board	C
CFE06	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_C	• MFP Control Board/Electronic sorting Board	C
CFE07	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_D	• MFP Control Board/Electronic sorting Board	C
CFE08	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_E	• MFP Control Board	C
CFE09	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_F	• MFP Control Board/Electronic sorting Board	C
CFE0A	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_G	• MFP Control Board/External Control Interface Board	C
CFE0B	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H0	• MFP Control Board/Electronic sorting Board	C
CFE0C	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H1	• MFP Control Board/Electronic sorting Board	C
CFE0D	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H2	• MFP Control Board/Electronic sorting Board	C
CFE0E	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA-I	• MFP Control Board	C
CFE0F	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA-J	• MFP Control Board/Engine	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFE10	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMAPCI Bridge	• MFP Control Board	C
CFE11	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA19 ASIC1	• MFP Control Board/Electronic sorting Board	C
CFE12	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA JPEG	• MFP Control Board	C
CFE13	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA NO	• MFP Control Board	C
CFF00	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A0	• MFP Control Board/Copier Board	C
CFF01	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A1	• MFP Control Board/Copier Board	C
CFF02	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A2	• MFP Control Board/Copier Board	C
CFF03	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B0	• MFP Control Board/Copier Board	C
CFF04	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B1	• MFP Control Board/Copier Board	C
CFF05	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B2	• MFP Control Board/Copier Board	C
CFF06	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_C	• MFP Control Board/Electronic sorting Board	C
CFF07	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_D	• MFP Control Board/Electronic sorting Board	C
CFF08	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_E	• MFP Control Board	C
CFF09	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_F	• MFP Control Board/Electronic sorting Board	C
CFF0A	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_G	• MFP Control Board/External Control Interface Board	C
CFF0B	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H0	• MFP Control Board/Electronic sorting Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFF0C	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H1	• MFP Control Board/Electronic sorting Board	C
CFF0D	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H2	• MFP Control Board/Electronic sorting Board	C
CFF0E	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA-I	• MFP Control Board	C
CFF0F	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA-J	• MFP Control Board/Engine	C
CFF10	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA PCI Bridge	• MFP Control Board	C
CFF11	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA 19 ASIC1	• MFP Control Board/Electronic sorting Board	C
CFF12	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA JPEG	• MFP Control Board	C
CFF13	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA NO	• MFP Control Board	C

16.5 How to reset

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of Malfunction Resetting Procedures

Trouble Code Rank	Resetting Procedures
Rank A	• Trouble Reset ☞ For details of Trouble Reset, see Adjustment/ Setting.
Rank B	• Opening/Closing the front door
Rank C	• Turning main power switch OFF/ON

16.6 Solution

16.6.1 C0204: Tray 2 Elevator failure

Relevant Electrical Parts	
Tray 2 Lift-Up Sensor (PC105) Tray 2 Lift-Up Motor (M101)	Tray 2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M101 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M101 for proper drive coupling and correct as necessary.	—	—
3	PC115 I/O check	PWB-Z PJ6Z-3 (ON)	T to U-26
4	M101 operation check	PWB-Z PJ4Z-4 to 5	M-24
5	Change PWB-Z.	—	—

16.6.2 C0211: Manual Bypass Paper Lifting Failure

Relevant Electrical Parts	
Bypass Lift-Up Sensor (PC115) Tray 2 Vertical Transport Motor (M103)	Tray 2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M103 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M103 for proper drive coupling and correct as necessary.	—	—
3	PC115 I/O check	PWB-Z PJ7Z<A>-11 (ON)	T to U-25
4	M103 operation check	PWB-Z PJ5Z-5 to 8	T to U-22
5	Change PWB-Z.	—	—

16.6.3 C0301: Suction Fan Motor's failure to turn

Relevant Electrical Parts	
Suction Fan Motor (M12)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M12 operation check	PWB-MC PJ13MC-7 (REM) PWB-MC PJ13MC-9 (LOCK)	C to D-2
4	Change PWB-MC	—	—

16.6.4 C0351: Paper Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
Paper Cooling Fan Motor (M26)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M26 operation check	PWB-MC PJ7MC-8 (REM) PWB-MC PJ7MC-10 (LOCK)	K-8
4	Change PWB-MC	—	—

16.6.5 C2151: 2nd Image Transfer Roller pressure/retraction failure

Relevant Electrical Parts	
2nd Image Transfer Pressure/Retraction Sensor (PC29) 2nd Image Transfer Pressure/Retraction Motor (M13)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M13 connector for proper connection and correct as necessary.	—	—
2	PC29 I/O check	PWB-MC PJ24MC-9 (ON)	C to D-3
3	M13 operation check	PWB-MC PJ13MC-1 (REM)	C to D-2
4	Change PWB-MC	—	—

16.6.6 C2152: Image Transfer Belt pressure/retraction failure

Relevant Electrical Parts	
1st Image Transfer Retraction Position Sensor (PC12) 1st Image Transfer Pressure/Retraction Motor (M11)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M11 connector for proper connection and correct as necessary.	—	—
2	PC12 I/O check	PWB-MC PJ20MC-6 (ON)	C to D-22
3	M11 operation check	PWB-MC PJ7MC-1 to 4	K-7
4	Change PWB-MC	—	—

16.6.7 C2160: Cyan PC Drum Charge Corona malfunction

16.6.8 C2161: Magenta PC Drum Charge Corona malfunction

16.6.9 C2162: Yellow PC Drum Charge Corona malfunction

16.6.10 C2163: Black PC Drum Charge Corona malfunction

16.6.11 C2164: PC Drum Charge Corona malfunction

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /K	High Voltage Unit/1 (HV1) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Imaging Unit contact and correct or clean as necessary.	—	—
2	Check the HV1 contact and correct or clean as necessary.	—	—
3	Change Imaging Unit.	—	—
4	Change HV1.	—	—
5	Change PWB-MC	—	—

16.6.12 C2251: K PC Motor failure to turn

Relevant Electrical Parts	
K PC Motor (M7)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ2MC-3 (DC24 V)	H-2
4	M7 operation check	PWB-MC PJ33MC-3 (REM) PWB-MC PJ33MC-6 (LOCK)	C to D-18
5	Change PWB-MC.	—	—

16.6.13 C2252: K PC Motor turning at abnormal timing

Relevant Electrical Parts	
K PC Motor (M7)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M7 operation check	PWB-MC PJ33MC-3 (REM) PWB-MC PJ33MC-6 (LOCK)	C to D-18
2	Change PWB-MC.	—	—

16.6.14 C2253: Color PC Motor failure to turn

Relevant Electrical Parts	
Color PC Drum Motor (M5)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ2MC-7 (DC24 V)	H-2
4	M5 operation check (C0018)	PWB-MC PJ33MC-10 (REM) PWB-MC PJ33MC-13 (LOCK)	C to D-18 to 19
5	Change PWB-MC	—	—

16.6.15 C2254: Color PC Motor turning at abnormal timing

Relevant Electrical Parts	
Color PC Drum Motor (M5)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M5 operation check	PWB-MC PJ33MC-10 (REM) PWB-MC PJ33MC-13 (LOCK)	C to D-18 to 19
2	Change PWB-MC	—	—

16.6.16 C2255: Color Developing Motor failure to turn

Relevant Electrical Parts	
Color Developing Motor (M6)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PU-1 connector for proper connection and correct as necessary.	PU1 PJ5PU1-11 (DC24 V)	P-5
4	M6 operation check	PWB-MC PJ3MC-3 (REM) PWB-MC PJ3MC-6 (LOCK)	K-15
5	Change PU-1	—	—

16.6.17 C2256: Color Developing Motor turning at abnormal timing

Relevant Electrical Parts	
Color Developing Motor (M6)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M6 operation check	PWB-MC PJ3MC-3 (REM) PWB-MC PJ3MC-6 (LOCK)	K-15
2	Change PWB-MC	—	—

16.6.18 C2257: Cleaning Brush Motor's failure to turn

Relevant Electrical Parts	
Cleaning Brush Motor (M22)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M22 connector for proper connection and correct as necessary.	—	—
2	Check M22 for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ2MC-9 (DC24 V)	H-2
4	M22 operation check	PWB-MC PJ37MC-3 (REM) PWB-MC PJ37MC-6 (LOCK)	K-3
5	Change PWB-MC.	—	—

16.6.19 C2258: Cleaning Brush Motor Turning at abnormal timing

Relevant Electrical Parts	
Cleaning Brush Motor (M22)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M22 operation check	PWB-MC PJ37MC-3 (REM) PWB-MC PJ37MC-6 (LOCK)	K-3
2	Change PWB-MC.	—	—

16.6.20 C2351: Toner Suction Fan Motor/K's failure to turn

Relevant Electrical Parts	
Toner Suction Fan Motor/K (M23)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M23 connector for proper connection and correct as necessary.	—	—
2	Check M23 for proper drive coupling and correct as necessary.	—	—
3	M23 operation check	PWB-MC PJ15MC-10 (REM) PWB-MC PJ15MC-12 (LOCK)	C to D-21
4	Change PWB-MC.	—	—

16.6.21 C2352: Toner Suction Fan Motor's failure to turn

Relevant Electrical Parts	
Toner Suction Fan Motor (M20)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M20 connector for proper connection and correct as necessary.	—	—
2	Check M20 for proper drive coupling and correct as necessary.	—	—
3	M20 operation check	PWB-MC PJ15MC-1 (REM) PWB-MC PJ15MC-3 (LOCK)	C to D-20 to 21
4	Change PWB-MC.	—	—

16.6.22 C2451: New Transfer Cleaner Unit resetting failure

16.6.23 C3461: New Fusing Unit resetting failure

Relevant Electrical Parts	
Control Board (PWB-MC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Reinstall Unit	—	—
2	Change PWB-MC	—	—

16.6.24 C2551: Abnormally low toner density detected Cyan TCR Sensor

16.6.25 C2553: Abnormally low toner density detected Magenta TCR Sensor

16.6.26 C2555: Abnormally low toner density detected Yellow TCR Sensor

Relevant Electrical Parts	
TCR Sensor/C (PWB-N3)	Control Board (PWB-MC)
TCR Sensor/M (PWB-N2)	MFP Control Board (PWB-MFPC)
TCR Sensor/Y (PWB-N1)	Imaging Unit /C
Toner Supply Motor C/K (M3)	Imaging Unit /M
Toner Supply Motor Y/M (M4)	Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
3	Correct the TCR Sensor spring moving part if faulty.	—	—
4	Clean the TCR Sensor LED if dirty	—	—
5	Change TCR Sensor C/M/Y.	—	—
6	M3, M4 operation check	PWB-MC PJ8MC-1 to 4 PWB-MC PJ8MC-5 to 8	C~D-14
7	Change Imaging Unit.	—	—
8	Change PWB-MC	—	—
9	Change PWB-MFPC.	—	—

16.6.27 C2552: Abnormally high toner density detected Cyan TCR Sensor

16.6.28 C2554: Abnormally high toner density detected Magenta TCR Sensor

16.6.29 C2556: Abnormally high toner density detected Yellow TCR Sensor

Relevant Electrical Parts	
TCR Sensor/C (PWB-N3) TCR Sensor/M (PWB-N2) TCR Sensor/Y (PWB-N1)	Control Board (PWB-MC) MFP Control Board (PWB-MFPC) Imaging Unit /C Imaging Unit /M Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
2	Clean the TCR Sensor LED if dirty	—	—
3	Correct the contact and/or WIRING of the TCR Sensor if faulty.	—	—
4	Change TCR Sensor C/M/Y.	—	—
5	Change Imaging Unit.	—	—
6	Change PWB-MC	—	—
7	Change PWB-MFPC.	—	—

16.6.30 C2557: Abnormally low toner density detected Black TCR Sensor

Relevant Electrical Parts	
TCR Sensor/K (UN10) Toner Supply Motor C/K (M3)	Control Board (PWB-MC) MFP Control Board (PWB-MFPC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	M3 operation check	PWB-MC PJ8MC-1 to 4	C to D-14
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFPC.	—	—

16.6.31 C2558: Abnormally high toner density detected Black TCR Sensor

Relevant Electrical Parts	
Imaging Unit /K TCR Sensor/K (PWB-N4)	Control Board (PWB-MC) MFP Control Board (PWB-MFPC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the TCR connection on the underside of the Imaging Unit if faulty.	—	—
2	Clean or correct each contact of the Imaging Unit if faulty.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFPC.	—	—

16.6.32 C2559: Cyan TCR Sensor adjustment failure

16.6.33 C255A: Magenta TCR Sensor adjustment failure

16.6.34 C255B: Yellow TCR Sensor adjustment failure

Relevant Electrical Parts	
TCR Sensor/C (PWB-N3) TCR Sensor/M (PWB-N2) TCR Sensor/Y (PWB-N1) Toner Supply Motor C/K (M3) Toner Supply Motor Y/M (M4)	Control Board (PWB-MC) MFP Control Board (PWB-MFPC) Imaging Unit /C Imaging Unit /M Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
2	Clean the TCR Sensor LED if dirty	—	—
3	Correct the contact and/or WIRING of the TCR Sensor if faulty.	—	—
4	Reinstall Imaging Unit C/M/Y.	—	—
5	M3, M4 operation check	PWB-MC PJ8MC-1 to 4 PWB-MC PJ8MC-5 to 8	C to D-14
6	Change Imaging Unit.	—	—
7	Change PWB-MC	—	—
8	Change PWB-MFPC.	—	—

16.6.35 C255C: Black TCR Sensor adjustment failure

Relevant Electrical Parts	
Imaging Unit /K	Control Board (PWB-MC) MFP Control Board (PWB-MFPC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the TCR connection on the underside of the Imaging Unit if faulty.	—	—
2	Clean or correct each contact of the Imaging Unit if faulty.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFPC.	—	—

16.6.36 C2651: Cyan Imaging Unit EEPROM access error

16.6.37 C2652: Magenta Imaging Unit EEPROM access error

16.6.38 C2653: Yellow Imaging Unit EEPROM access error

16.6.39 C2654: Black Imaging Unit EEPROM access error

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /K	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the connection between the Imaging Unit and the machine if dirty	—	—
2	Reinstall Imaging Unit C/M/Y/K.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—

16.6.40 C2655: Cyan LPH correction data download failure

16.6.41 C2656: Yellow LPH correction data download failure

16.6.42 C2657: Magenta LPH correction data download failure

16.6.43 C2658: Black LPH correction data download failure

Relevant Electrical Parts	
LPH Assy/C LPH Assy/M LPH Assy/Y LPH Assy/K	LED Drive Board (PWB-LED) MFP Control Board (PWB-MFPC) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the harness connection between LPH and PWB-LED if faulty.	—	—
2	Correct the harness connection between PWB-LED and PWB-MFPC if faulty.	—	—
3	Change LPH Assy.	—	—
4	Change PWB-LED.	—	—
5	Change PWB-MFPC.	—	—
6	Change PWB-MC	—	—

16.6.44 C3101: Fusing Pressure Roller pressure/retraction failure

Relevant Electrical Parts	
Fusing Pressure/Retraction Sensor (PC33) Fusing Pressure Roller Pressure/Retraction Motor (M19)	Control Board (PWB-MC) Fusing Unit

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M9 connector for proper connection and correct as necessary.	—	—
2	PC33 I/O check	PWB-MC PJ26MC-12 (ON)	—
3	PC33 operation check	—	—
4	M19 operation check	PWB-MC PJ14MC-5 to 6	C to D-6
5	Change Fusing Unit	—	—
6	Change PWB-MC	—	—

16.6.45 C3201: Fusing Drive Motor's failure to turn

Relevant Electrical Parts	
Fusing Drive Motor (M2)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M2 connector for proper connection and correct as necessary.	—	—
2	Check the Fusing Unit drive for possible overload and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ2MC-5 (DC24 V)	H-2
4	M2 operation check	PWB-MC PJ31MC-10 (REM) PWB-MC PJ31MC-13 (LOCK)	C to D-17
5	Change PWB-MC	—	—

16.6.46 C3202: Fusing Drive Motor turning at abnormal timing

Relevant Electrical Parts	
Fusing Drive Motor (M2)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M2 operation check	PWB-MC PJ31MC-10 (REM) PWB-MC PJ31MC-13 (LOCK)	C to D-17
2	Change PWB-MC	—	—

16.6.47 C3301: Fusing Cooling Fan Motor /1's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/1 (M9)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M9 operation check	PWB-MC PJ6MC-4 (REM) PWB-MC PJ6MC-6 (LOCK)	K-9
4	Change PU-1	—	—

16.6.48 C3302: Fusing Cooling Fan Motor /2, /3's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/2 (M15) Fusing Cooling Fan Motor/3 (M16)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M15, M16 operation check	PWB-MC PJ15MC-4 (REM) PWB-MC PJ15MC-6 (LOCK) PWB-MC PJ15MC-7 (REM) PWB-MC PJ15MC-9 (LOCK)	C to D-21
4	Change PWB-MC	—	—

16.6.49 C3451: Heating Roller warm-up failure

16.6.50 C3452: Fusing Pressure Roller warm-up failure

16.6.51 C3751: Heating Roller abnormally high temperature

16.6.52 C3752: Fusing Pressure Roller abnormally high temperature

16.6.53 C3851: Heating Roller abnormally low temperature

16.6.54 C3852: Fusing Pressure Roller abnormally low temperature

Relevant Electrical Parts	
Fusing Unit	DC Power Supply (PU1) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Fusing Unit for correct installation (whether it is secured in position).	—	—
2	Check the Fusing Unit, PWB-MC and PU1 for proper connection and correct or change as necessary.	—	—
3	Change Fusing Unit.	—	—
4	Change PWB-MC	—	—
5	Change PU1.	—	—

16.6.55 C4705: Printer Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Service Mode” → “State Confirmation” → “Memory/HDD Adj.” → “Memory Bus Check” → “Memory→PRT.”	—	—
2	Check the connectors on PWB-MFPC for proper connection and correct as necessary.	—	—
3	Change PWB-MFPC.	—	—

16.6.56 C4761: Compression hardware timeout

16.6.57 C4765: Extraction hardware timeout

16.6.58 C4770: JBIG0 Error

16.6.59 C4771: JBIG1 Error

16.6.60 C4772: JBIG2 Error

16.6.61 C4773: JBIG3 Error

16.6.62 C4780: Compressor 0 command buffer stop failure

16.6.63 C4781: Compressor 1 command buffer stop failure

16.6.64 C4782: Compressor 2 command buffer stop failure

16.6.65 C4783: Compressor 3 command buffer stop failure

16.6.66 CD211: PCI-SDRAM DMA operation failure

16.6.67 CD212: Compression/extraction timeout detection

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Change PWB-MFPC.	—	—

16.6.68 C5102: Main Motor's failure to turn

Relevant Electrical Parts	
Main Motor (M1)	Control Board (PWB-MC) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ2MC-1 (DC24 V)	H-2
4	M1 operation check	PWB-MC PJ31MC-3 (REM) PWB-MC PJ31MC-6 (LOCK)	C to D-17
5	Change PWB-MC.	—	—
6	Change PU1.	—	—

16.6.69 C5103: Main Motor Turning at abnormal timing

Relevant Electrical Parts	
Main Motor (M1)	Control Board (PWB-MC) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M1 operation check	PWB-MC PJ31MC-3 (REM) PWB-MC PJ31MC-6 (LOCK)	C to D-17
2	Change PWB-MC.	—	—
3	Change PU1.	—	—

16.6.70 C5351: Power Supply Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
Power Supply Cooling Fan Motor (M21)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M21 operation check	PU1 PJ10PU1-3 (LOCK)	M to N-1 to 2
4	Change PU-1	—	—

16.6.71 C5353: Cooling Fan Motor 2's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/2 (M10)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M10 operation check	PWB-MC PJ7MC-6 (REM) PWB-MC PJ7MC-7 (LOCK)	K-8
4	Change PWB-MC	—	—

16.6.72 C5354: Ozone Ventilation Fan Motor's failure to turn

Relevant Electrical Parts	
Ozone Ventilation Fan Motor (M18)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M18 operation check	PWB-MC PJ6MC-1 (REM) PWB-MC PJ6MC-3 (LOCK)	K-8 to 9
4	Change PWB-MC	—	—

16.6.73 C5355: Cooling Fan Motor/3's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/3 (M25)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M25 operation check	PWB-MC PJ40MC-1 (REM) PWB-MC PJ40MC-3 (LOCK)	C to D-12
4	Change PWB-MC	—	—

16.6.74 C5356: Cooling Fan Motor/1's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/1 (M24)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M24 operation check	PWB-MC PJ40MC-4 (REM) PWB-MC PJ40MC-6 (LOCK)	C to D-12
4	Change PWB-MC	—	—

16.6.75 C5370: MFP Control Board Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
MFP Control Board Cooling Fan Motor (M27)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M27 operation check	PWB-SIF PJ08SIF-3 (LOCK)	M-17
4	Change PWB-MC	—	—

16.6.76 C6102: Scanner Home Sensor malfunction

16.6.77 C6103: Scanner overrun failure

Relevant Electrical Parts	
Scanner Home Sensor (PC201) Scanner Motor (M201)	Scanner Motor Drive Board (PWB-IC) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct or change the Scanner drive (cable, pulley, gear, belt) if it is faulty.	—	—
2	Correct the Scanner Motor set screw if loose.	—	—
3	Adjust “Image Position Leading Edge” and “Feed Direction Adjustment.”	—	—
4	Check the PC201, M201, PWB-IC and PWB-C connector for proper connection and correct as necessary.	—	—
5	PC201 I/O check	PWB-C PJ11C-8 (ON)	N-13
6	M201 operation check	PWB-IC PJ3IC-1 (REM) PWB-IC PJ3IC-3 (LOCK)	S-9
7	Change PWB-IC.	—	—
8	Change PWB-C.	—	—

16.6.78 C6301: Scanner Cooling Fan Motor’s failure to turn

Relevant Electrical Parts	
Scanner Cooling Fan Motor (M202)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M202 operation check	PWB-C PJ81C-2 (REM) PWB-C PJ81C-3 (LOCK)	N-10
4	Change PWB-MC	—	—

16.6.79 C6704: Scanner Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC) Copier Board (PWB-CF)	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Service Mode” → “State Confirmation” → “Memory/HDD Adj.” → “Memory Bus Check” → “Scanner→Memory.”	—	—
2	Check the connectors between PWB-C and PWB-CF for proper connection and correct as necessary.	—	—
3	Change PWB-MFPC.	—	—
4	Change PWB-C.	—	—

16.6.80 C6751: CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the harness connection between PWB-A and PWB-C if faulty.	—	—
2	Check for possible extraneous light and correct as necessary.	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty	—	—
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.	—	—
5	Change PWB-A.	—	—
6	Change PWB-C.	—	—

16.6.81 C9401: Exposure Lamp's failure to turn ON

16.6.82 C9402: Exposure Lamp turning ON at abnormal timing

Relevant Electrical Parts	
Scanner Assy Flat Cable	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the flat cable for proper connection and correct or change as necessary.	—	—
2	Change Scanner Assy.	—	—
3	Change PWB-C.	—	—

16.6.83 CA051: Standard Controller configuration failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the following setting has been correctly made: "Service Mode" → "System 2" → "Image Controller Setting." If the setting is changed, be sure to turn OFF and ON the Main Power Switch.	—	—
2	Check the connectors of the MFP Control Board (PWB-MFPC) for proper connection and correct as necessary.	—	—
3	Change PWB-MFPC.	—	—

16.6.84 CC001: Vendor connection failure

Relevant Electrical Parts	
Control Board (PWB-MC)	Coin Vendor (Japan) Coin Vendor Kit (North America, Europe)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Vendor connector for proper connection and correct as necessary.	—	—
2	Check the PWB-MC connector for proper connection and correct as necessary.	—	—
3	Change PWB-MC	—	—

16.6.85 CC151: ROM contents error upon startup (MSC)

16.6.86 CC152: ROM contents error upon startup (Scanner)

16.6.87 CC153: ROM contents error upon startup (PRT)

16.6.88 CC154: ROM contents error upon startup (LPH)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—
2	Rewrite firmware using the Compact Flash card.	—	—

16.6.89 CC163: ROM contents error (PRT)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—
2	Rewrite firmware using the Compact Flash card.	—	—

16.6.90 CD002: JOB RAM save error

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Hard Disk connector for proper connection and correct as necessary.	—	—
2	Format Hard Disk.	—	—
3	Change Hard Disk.	—	—
4	Change PWB-MFPC.	—	—

16.6.91 CD004: Hard disk access error

16.6.92 CD005: Hard Disk Error 1

16.6.93 CD006: Hard Disk Error 2

16.6.94 CD007: Hard Disk Error 3

16.6.95 CD008: Hard Disk Error 4

16.6.96 CD009: Hard Disk Error 5

16.6.97 CD00A: Hard Disk Error 6

16.6.98 CD00B: Hard Disk Error 7

16.6.99 CD00C: Hard Disk Error 8

16.6.100 CD00D: Hard Disk Error 9

16.6.101 CD00E: Hard Disk Error A

16.6.102 CD00F: Hard disk data transfer error

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC) Electronic Sorting Board (PWB-ES)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Hard Disk connector for proper connection and correct as necessary.	—	—
2	Reinstall the hard disk.	—	—
3	Change Hard Disk.	—	—
4	Change PWB-ES.	—	—
5	Change PWB-MFPC.	—	—

16.6.103 CD010: Hard disk unformat

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Service Mode” → “State Confirmation” → “Memory/HDD Adj.” → “HDD Format.”	—	—
2	Change Hard Disk.	—	—
3	Change PWB-MFPC.	—	—

16.6.104 CD011: Hard disk specifications error

Relevant Electrical Parts	
Hard Disk	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the hard disk specifications.	—	—
2	Change the hard disk.	—	—

16.6.105 CD012: Encryption ASIC setting error

16.6.106 CD013: Encryption ASIC mounting error

Relevant Electrical Parts	
Encryption ASIC	Electronic sorting Board (PWB-ES)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Encryption ASIC for proper installation.	—	—
2	Change the Encryption ASIC.	—	—
3	Change PWB-ES.	—	—

16.6.107 CD201: File Memory mounting failure

16.6.108 CD202: Memory capacity discrepancy

Relevant Electrical Parts	
Electronic Sorting Board (PWB-ES)	Standard Memory (D_FILE0)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the standard memory (D_FILE0) on the Electronic Sorting Board (PWB-ES) is installed correctly.	—	—
2	Change the standard memory (D_FILE0)) on the Electronic Sorting Board (PWB-ES).	—	—
3	Change PWB-ES.	—	—

16.6.109 CD221: NVRAM initialization failure

16.6.110 CD222: NVRAM initialization failure

16.6.111 CD223: NVRAM initialization failure

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Call responsible person of Konicaminolta.	—	—

16.6.112 CE002: Message and Method parameter failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Hard Disk connector for proper connection and correct as necessary.	—	—
2	Format Hard Disk.	—	—
3	Change Hard Disk.	—	—
4	Change PWB-MFPC.	—	—

16.6.113 CEEE1: MSC undefined malfunction occurring

Relevant Electrical Parts	
MFP Control Board (PWB-MFPC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connectors on PWB-MFPC for proper connection and correct as necessary.	—	—
2	Change PWB-MFPC.	—	—

16.6.114 CEEE2: Scanner Section undefined malfunction

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the connector connection between PWB-A and PWB-C if faulty.	—	—
2	Change PWB-C.	—	—
3	Change PWB-A.	—	—

16.6.115 CEEE3: Engine Section undefined malfunction

Relevant Electrical Parts	
Control Board (PWB-MC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the PWB-MC connector for proper connection and correct as necessary.	—	—
2	Change PWB-MC	—	—

17. Power supply trouble

17.1 Machine is not Energized at All (PU1 Operation Check)

Relevant Electrical Parts	
Main Power Switch (SW1) Control Board (PWB-MC)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across PJ1PU1-1 and 2 on PU1?	Q to R-4 to 5	NO	Check WIRING between the wall outlet and PJ1PU1.
2	Are the fuses (F1 and F2) on PU1 conducting?	—	NO	Change PU1.
3	Is DC24 V being output from PJ5PU1-2 on PU1?	P-4 to 5	NO	Change PU1.
4	Is DC5 V being input to PJ7PU1-1 on PU1?	Q to R-6	NO	Change PU1.
5	Is DC5 V being input to PJ1MC-7 on the Control Board? (LED on PWB-MC does not blink.)	I-13	NO	Change PU1.
			YES	Change PWB-MC

17.2 Control panel indicators do not light.

Relevant Electrical Parts	
Image Processing Board (PWB-C) Control Panel (UN201)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the Scanner and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	Is a power voltage being applied across PJ1PU1-1 and 2 on PU1?	Q to R-4 to 5	NO	Check the WIRING from the wall outlet to SW1 PJ1PU1.
3	Is the fuse (F1,F2) on PU1 conducting?	—	NO	Change PU1.
4	Is DC5 V being output from PJ13PU1-1 on PU1 and DC24 V from PJ12PU1-1?	P-6 to 7	NO	Change PU1.
5	Is PJ12C on PWB-C securely connected?	Q to R-11 to 12	NO	Reconnect.
6	Is CN1UN201 on UN201 securely connected?	Y-3 to 4	NO	Reconnect.
			YES	Change UN201. Change PWB-C.

17.3 Fusing Heaters do not Operate

Relevant Electrical Parts	
Upper Right Door Switch (SW5) Fusing Unit	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across PJ4PU1-1 and 3 on PU1? During this time, the Right Door should be closed.	R-6	NO	Check wiring from power outlet to SW5 to PJ4PU1.
2	Is the power source voltage applied across CN44-1 and 3, or across 2 and 3?	S-6	YES	Fusing Unit
			NO	Change PU1.

17.4 Power is not Supplied to ADF

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN51-1 on DF-601?	S-14	YES	Malfunction in DF-601
2	Is DC24 V being output from PJ12PU1-4 on PU1?	O to P-7	NO	Check wiring from PU1 to CN53 to ADF.
3	Is the fuse (F201) on PU1 conducting?	—	YES	Change PU1.
			NO	Change F201. Malfunction in DF-601

17.5 Power is not Supplied to Duplex

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN42-1 on Duplex?	J-10	NO	Malfunction in Duplex.
2	Is DC24 V being output from PJ6PU1-1 on PU1?	O to P-3	NO	Check wiring from PU1 to Duplex.
3	Is the fuse (F203) on PU1 conducting?	—	YES	Change PU1.
			NO	Change F203. Malfunction in Duplex.

17.6 Power is not Supplied to Option

17.6.1 Optional Paper Feed Cabinet

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being applied to hookup connector CN28-1?	O-27	NO	Malfunction in Paper Feed Cabinet
2	Is DC24 V being output from PJ6PU1-2 on PU1?	P-3	NO	Check wiring from PU1 to CN48 to Paper Feed Cabinet.
3	Is the fuse (F204) on PU1 conducting?	—	YES	Change PU1.
			NO	Change F204. Malfunction in Paper Feed Cabinet

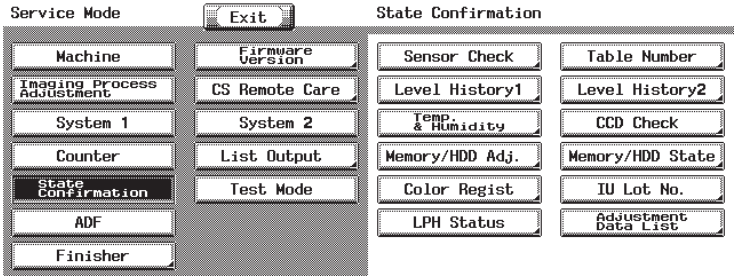
17.6.2 Finisher

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V and DC5 V being applied to CN20-11 and CN20-1, respectively, of the Finisher?	K-14	NO	Malfunction in Finisher.
2	Are DC24 V and DC5 V being applied to PJ5PU1-9 and PJ10PU1-5 on PU1, respectively?	P-5 R-7	NO	Check wiring from PU1 to Finisher.
3	Are there continuity in the 24-V fuse (F202) and 5-V fuse (F205) on PU1?	—	YES	Change PU1.
			NO	Change F202, F205. Malfunction in Finisher.

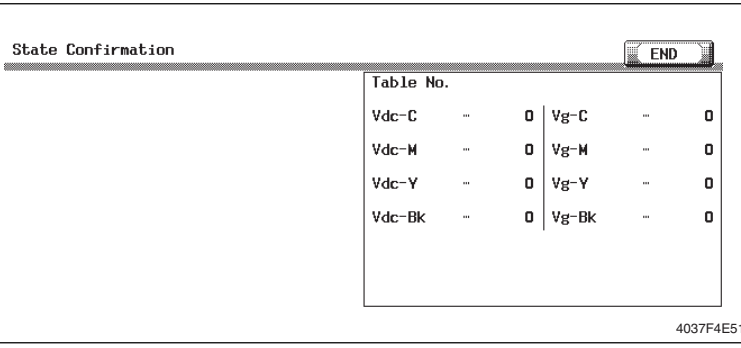
18. Image quality problem

18.1 How to read Element date

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.

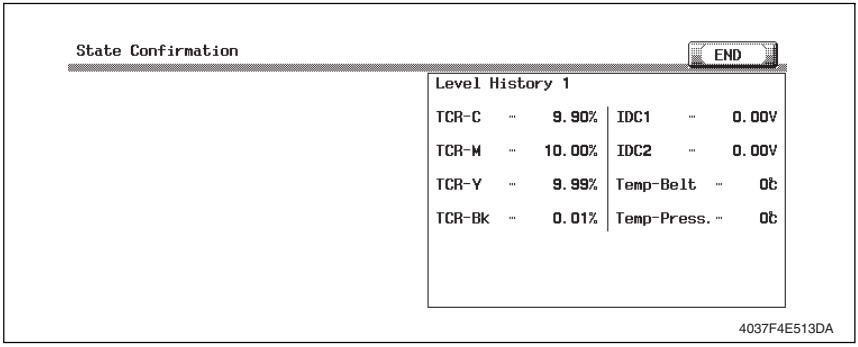


18.1.1 Table Number



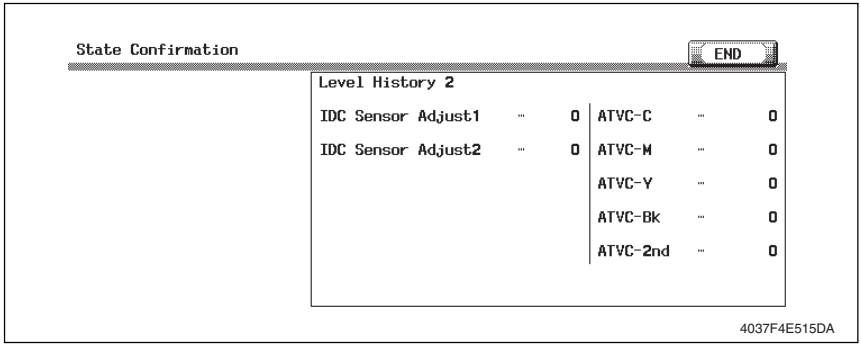
Vdc-C Vdc-M Vdc-Y Vdc-K	• Shows the developing bias value of each color of toner when an image is produced. • Standard values: Around 390 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components: Imaging Unit, High Voltage Unit (Developing Bias)
Vg-C Vg-M Vg-Y Vg-K	• Shows the grid voltage value of each color of toner when an image is produced. • Standard values: Around 500 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components: Imaging Unit, High Voltage Unit (Developing Bias)

18.1.2 Level History 1



TCR-C TCR-M TCR-Y TCR-K	• Shows the T/C ratio (in 0.01 % increments). • Standard value: 7 ± 3 % • Relevant Components: LPH Unit, TCR Sensor K
IDC1 IDC2	• Shows the IDC bare surface output reading taken last (in 0.01 V increments). • It should normally be around 4.3 V. • The output range is 0 V to 5 V. • “Reading taken last” means: Latest toner density When the Start key is pressed, the output value is displayed while a test print is being produced. • Relevant Components: IDC Sensor, Transfer Belt Unit
Temp-Belt. Temp-Press.	• Shows the temperature of the Heating Roller (Temp-Belt) and the Fusing Pressure Roller (Temp-Press.) (in 5 °C increments). • Relevant Components: Fusing Unit

18.1.3 Level History 2



IDC Sensor Adjust 1 IDC Sensor Adjust 2	• Shows the IDC intensity adjustment value. • It should normally be around 40 and can range from 0 to 255. • The value becomes greater as the Transfer Belt Unit has been used more. • Relevant Components: IDC Sensor, Transfer Belt Unit
ATVC -C ATVC -M ATVC -Y ATVC -K ATVC -2nd	• Shows the latest ATVC level (which varies according to the paper type). • 300 V to 3000 V (ATVC-C/-M/-Y/-K) • 300 V to 5000 V (ATVC-2nd) • Relevant Components: Transfer Belt Unit, High Voltage Unit (Image Transfer, Neutralizing)

18.2 How to identify problematic part

- This chapter is divided into two parts: “Initial Check Items” and “Troubleshooting Procedure by a Particular Image Quality Problem.”
- When an image quality problem occurs, first go through the “Initial Check Items” and, if the cause is yet to be identified, go to “Troubleshooting Procedure by a Particular Image Quality Problem.”

18.2.1 Initial Check Items

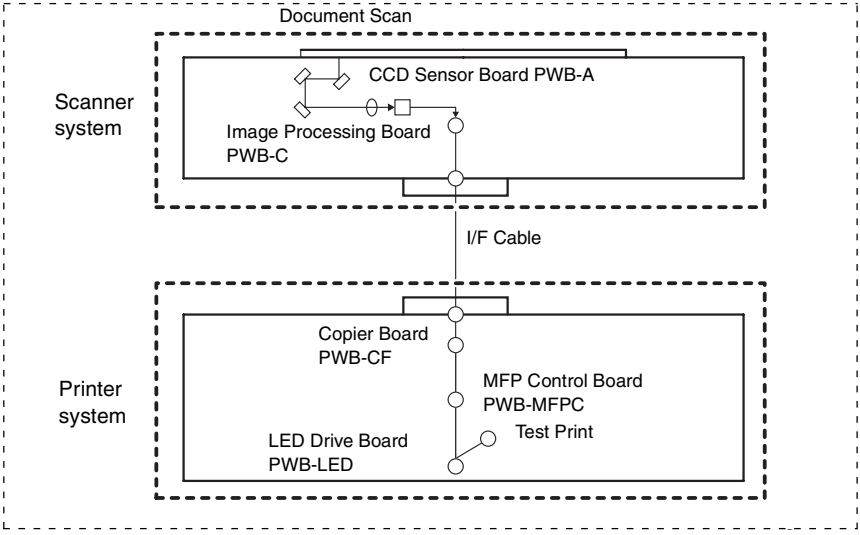
A. Initial Check Items 1

- Check first to see if image data is properly transmitted between Scanner and memory, and between memory and printer.

Action	Result	Next Step
Enter the Service Mode, select “State Confirmation” → “Memory/HDD Adj.” → “Memory Bus Check,” and select and carry out “Scanner→Memory” and “Memory→PRT” checks.	OK	Initial Check Items 2
	NG	☞ 364 (action as instructed)

B. Initial Check Items 2

- Let the machine produce a test print and determine whether the image problem is attributable to the Scanner or printer system.

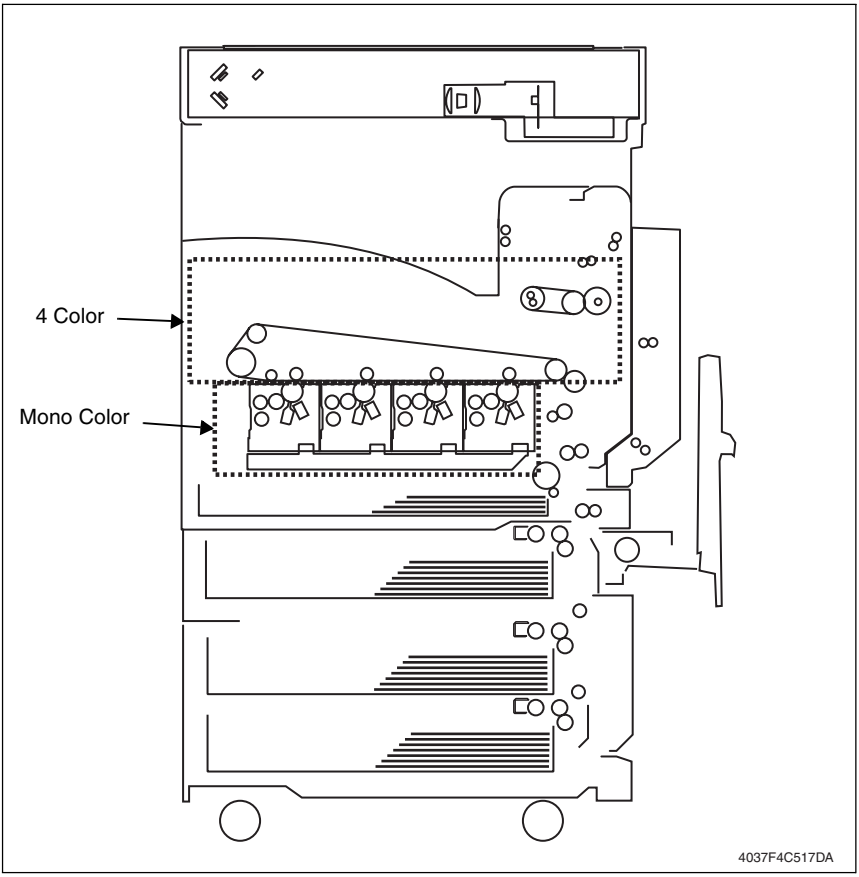


- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From “Service Mode,” select “Test Mode” → “Halftone Pattern” → “SINGLE” → “HYPER” → “Gradation” → “C→M→Y→K” → “Density 64,” and produce a test print. Is image problem evident?	YES	Printer	Initial Check Items 3
		NO	Scanner	☞ 379

C. Initial Check Items 3

- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors



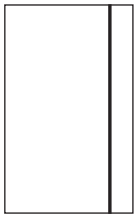
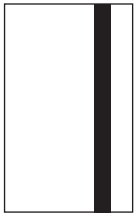
- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From “Service Mode,” select “Test Mode” → “Halftone Pattern” → “SINGLE” → “HYPER” → “Gradation” → “C→M→Y→K” → “Density 64,” and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	☞ 408
		NO	Printer, single color	☞ 392

18.3 Solution

18.3.1 IR System: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines in Sub Scan Direction, and colored bands in Sub Scan Direction

A. Typical Faulty Images

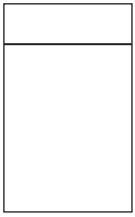
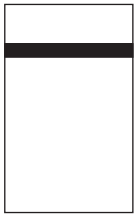
White lines in Sub Scan Direction	White bands in Sub Scan Direction	Color lines in Sub Scan Direction	Color bands in Sub Scan Direction
			
4036fs4021c0	4036fs4022c0	4036fs4023c0	4036fs4024c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure Lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	Machine → Scan Area → Image Position: Side Edge (Service Mode)	The adjustment value for Image Position: Side Edge falls within the specified range.	NO	Readjust.
7		The white lines/bands or colored lines/bands are blurry.	YES	Change Scanner Assy. Change CCD Unit.

18.3.2 Scanner System: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, and colored bands in Main Scan Direction

A. Typical Faulty Images

White lines in Main Scan Direction	White bands in Main Scan Direction	Color lines in Main Scan Direction	Color bands in Main Scan Direction
			
4036fs4025c0	4036fs4026c0	4036fs4027c0	4036fs4028c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Machine → Scan Area → Image Position: Top Edge (Service Mode)	The adjustment value for Image Position: Leading Edge falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

18.3.3 Scanner System: color spots

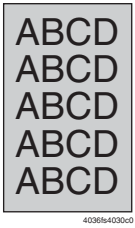
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.4 Scanner System: fog

A. Typical Faulty Images

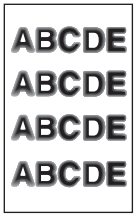


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3		Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
4	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
6	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
7		Lens is dirty.	YES	Clean.
8		Exposure Lamp is dirty.	YES	Clean.
9		Reflectors are dirty.	YES	Clean.
10	Basic Screen Quality/Density	The problem is eliminated when the image is produced in the Manual exposure setting.	NO	Try another exposure level in Manual.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Scanner Assy. Change CCD Unit.

18.3.5 Scanner System: blurred image, blotchy image

A. Typical Faulty Images

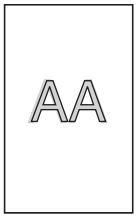


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Original Glass	Original Glass tilts.	YES	Position Original Glass correctly. Check original loading position.
4	2nd/3rd Mirrors Carriage	Scanner is not aligned with the 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

18.3.6 Scanner System: incorrect color image registration, sync shift (lines in main scan direction)

A. Typical Faulty Images

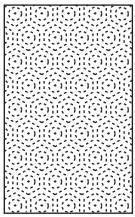


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Slide rails	Foreign matter on rails.	YES	Clean and apply lubricant.
4	Drive Cables	Cable kinks or is damaged.	YES	Correct or change.
5	Scanner Assy	Scanner moves smoothly.	NO	Adjust the Scanner Motor timing belt. → Change bushing. → Change Scanner Motor.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change CCD Unit.

18.3.7 Scanner System: moire

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original mode (select one other than that resulted in moire).
2	Basic Screen Quality/Density	Moire distortions recur even after the original mode has been changed.	YES	Select “Text Mode or “Photo Mode”.
3	Basic Screen Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

18.3.8 Scanner System: skewed image

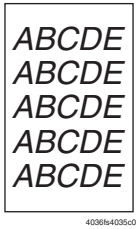
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original Glass	Original Glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
3	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.9 Scanner System: distorted image

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
3	Scanner Motor	Scanner Motor turns smoothly.	NO	Change belt. Change Scanner Motor.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.10 Scanner System: low image density, rough image

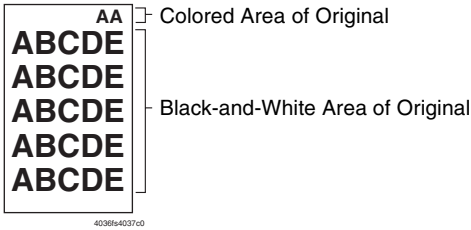
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original sticks to Original Glass.	YES	Reposition original.
2	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
3	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
5		Lens is dirty.	YES	Clean.
6		Exposure Lamp is dirty.	YES	Clean.
7		Reflectors are dirty.	YES	Clean.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Clean Exposure Lamp. → Change Scanner Assy. → Change CCD Unit.

18.3.11 Scanner System: defective ACS

A. Typical Faulty Images

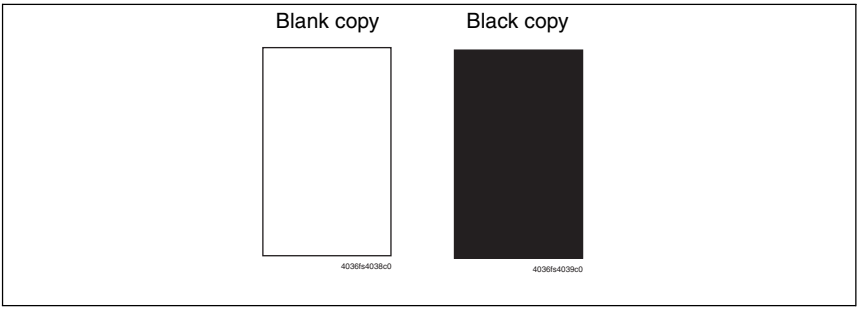


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Auto Color Level Adjustment (User Setting)	The problem persists even after the ACS Determination Level Adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the machine may fail to properly detect the colored area.)

18.3.12 Scanner System: blank copy, black copy

A. Typical Faulty Images

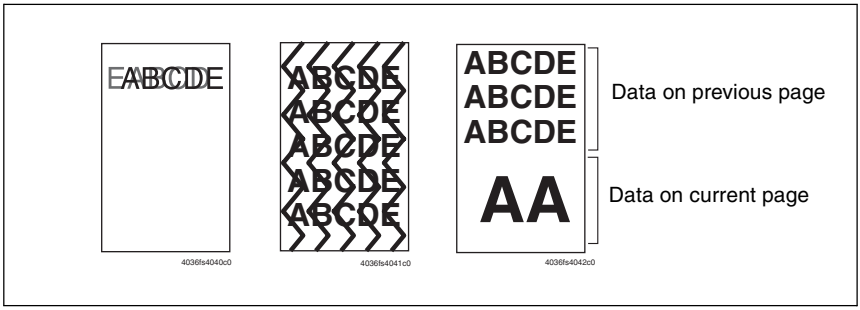


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	CCD Unit	Connectors of the CCD Unit are connected properly.	NO	Reconnect.
4	Test Mode (Service Mode)	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change Image Processing Board.

18.3.13 Scanner System: abnormal image

A. Typical Faulty Images

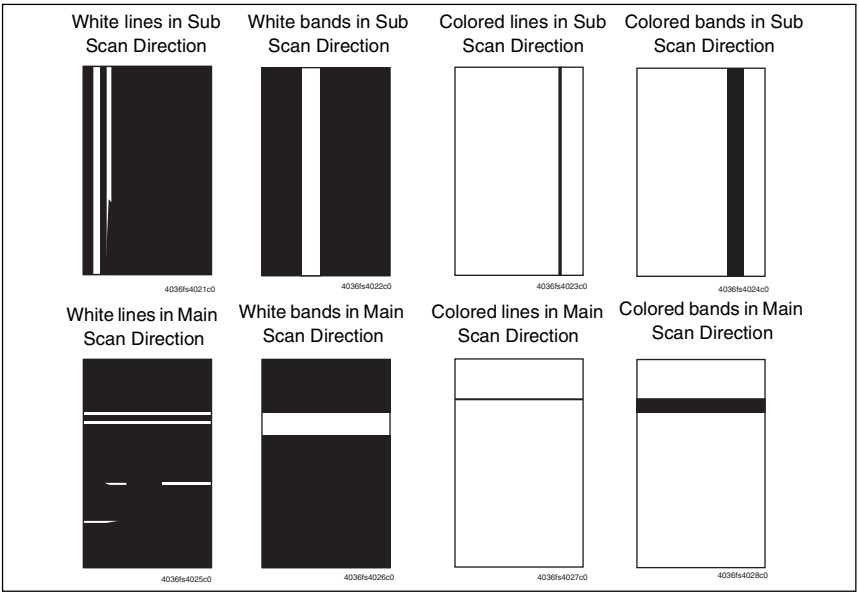


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	MFP Control Board (PWB-MFPC)	Data on previous page is mixed with data on current page.	NO	Reinstall expanded memory.
4	Test Mode (Service Mode)	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the interface connection cable has been changed.	NO	Change Image Processing Board.
6	MFP Control Board (PWB-MFPC)	The problem has been eliminated through the checks of steps up to 5.	NO	Change MFP Control Board.

18.3.14 Printer Monocolor: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines colored bands in Sub Scan Direction, white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, colored bands in Main Scan Direction

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Select “Service Mode” → “Machine” → “LPH Chip Adjust” and run “LPH Chip Adjust.”
			NO	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Imaging Unit	Dirty on the outside.	YES	Clean.
5		Connectors and contact terminals make good connection between each IU and LPH Assy.	NO	Clean contact terminals. Reconnect.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	Image check	The problem has been eliminated through the checks of steps up to 6.	NO	Select “Service Mode” → “Machine” → “LPH Rank” and run “LPH Rank.”
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy.

18.3.15 Printer Monocolor: uneven density in sub scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	Uneven density of void area occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
2	High image density original	Uneven density in Sub Scan Direction occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
3	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
4	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
5		Dirty on the outside.	YES	Clean.
6	LPH Assy	LED surface is dirty.	YES	Clean using the LED Cleaning Jig.
7	Image check	Monocolor uneven image (uneven high density) occurs.	YES	Select “Service Mode” → “Machine” → “LPH Rank” and run “LPH Rank.”
8	Image Transfer Belt Unit	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change IU. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change Copier Board. → Change LED Drive Board → Change LPH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.16 Printer Monocolor: uneven density in main scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2		Dirty on the outside.	YES	Clean.
3	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Image check	Monocolor uneven image (uneven high density) occurs.	YES	Select “Service Mode” → “Machine” → “LPH Rank” and run “LPH Rank.”
5	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.17 Printer Monocolor: low image density

A. Typical Faulty Images

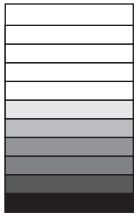
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirm → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: Around 390 V Vg : Around 500 V Black Vdc: Around 390 V Vg : Around 500 V	NO	Go to next step.
2	State Confirmation → Level History 1 (Service Mode)	Check TCR data.	NO	Go to next step.
3		IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Image Transfer Belt for damage.
4	Level History data check results	Low TCR and low Vg and Vdc	YES	Go to step 8.
5		Low TCR and high Vg and Vdc	YES	Go to step 14.
6		TCR falling within specified range and low Vg and Vdc	YES	Go to step 8.
7		TCR falling within specified range and high Vg and Vdc	YES	Go to step 14.
8	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
9	Imaging Unit	Dirty on the outside.	YES	Clean.
10	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
11	TCR Sensor window	The color TCR Sensor window on the LED Assy is dirty.	YES	Clean.
12	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
13		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
14	Hopper Unit	Connectors are loose.	YES	Reconnect.
15		Gear is cracked.	YES	Change gear.
16		Toner empty lever and/or detecting switch are defective.	YES	Clean.

Step	Section	Check Item	Result	Action
17	Image Process Adjustment → TCR Toner Supply (Service Mode)	Toner is properly supplied when TCR Toner Supply is run.	NO	Go to next step.
18	Image Process Adjustment → TCR Level Setting (Service Mode)	The problem has been eliminated when T/C has been increased.	NO	Go to next step.
19	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 23.
20	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
21	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of D Max Density.	NO	Go to next step.
22		The problem has been eliminated through the checks of steps up to 22.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change Copier Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.18 Printer Monocolor: gradation reproduction failure

A. Typical Faulty Images



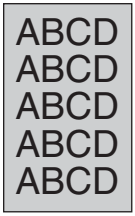
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Photo/Density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
2	LPH Assy	LED retracting lever is locked in position.	YES	Slide out the Imaging Unit and reinstall.
3	Imaging Unit	Dirty on the outside.	YES	Clean.
4	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
5	TCR Sensor window	TCR Sensor window is dirty.	YES	Clean.
6	State Confirmation → Level History 1 (Service Mode)	IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Image Transfer Belt for damage.
7	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 11.
8	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
9	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of D Max Density.	NO	Go to next step.

Step	Section	Check Item	Result	Action
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change Copier Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.19 Printer Monocolor: foggy background

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirmation → Table Number (Service Mode)	Check data for Vg and Vb. Color Vdc: Around 390 V Vg : Around 500 V Black Vdc: Around 390 V Vg : Around 500 V	NO	Go to next step.
2	State Confirmation → Level History 1 (Service Mode)	Check TCR data.	NO	Go to next step.
3		IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Transfer Belt for damage.
4	Level History data check results	Low TCR and low Vg and Vdc	YES	Go to step 8.
5		Low TCR and high Vg and Vdc	YES	Go to step 12.
6		TCR falling within specified range and low Vg and Vdc	YES	Go to step 8.
7		TCR falling within specified range and high Vg and Vdc	YES	Go to step 12.
8	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
9	Imaging Unit	Dirty on the outside.	YES	Clean.
10	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
11	TCR Sensor window	The color TCR Sensor window on the LED Assy is dirty.	YES	Clean.
12	Image Process Adjustment → Background Voltage Margin (Service Mode)	The problem is eliminated after Background Voltage Margin has been adjusted.	NO	Go to next step.
13	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 17.

Step	Section	Check Item	Result	Action
14	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
15	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of D Max Density.	NO	Go to next step.
16		The problem has been eliminated through the checks of steps up to 15.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change Copier Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

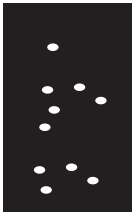
18.3.20 Printer Monocolor: void areas, white spots

A. Typical Faulty Images

Void areas

4036fs4050c0

White spots



4036fs4051c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 395
2		There is void area at the rear side section.	YES	Perform “Transfer Adjust” of “Image Process Adjustment” under Service Mode.
3	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
4		Dirty on the outside.	YES	Clean.
5	Hopper Unit	Foreign matter or caked toner in the Toner Cartridge.	YES	Remove foreign matter.
6	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: “Service Mode” → “Image Process Adjustment” → “Dev. Bias Choice.”
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change Imaging Unit.

18.3.21 Printer Monocolor: colored spots

A. Typical Faulty Images

Colored spots

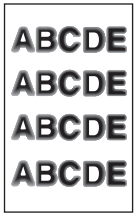
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Imaging Unit.

18.3.22 Printer Monocolor: blurred image

A. Typical Faulty Images

blurred image

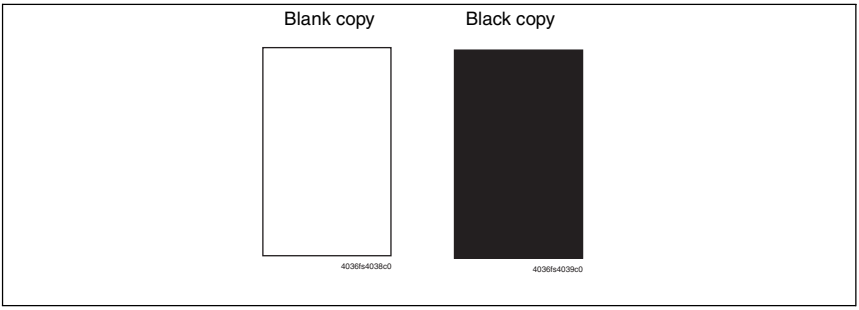


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	Image is distorted (stretched or shrunk).	YES	Select “Service Mode” → “Machine” → “Printer Area” → “Paper Feed Direction Adj.”
2	LED Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
3		The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Imaging Unit	Dirty on the outside.	YES	Clean.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Imaging Unit. → Change LPH Assy. → Change LPH Unit.

18.3.23 Printer Monocolor: blank copy, black copy

A. Typical Faulty Images

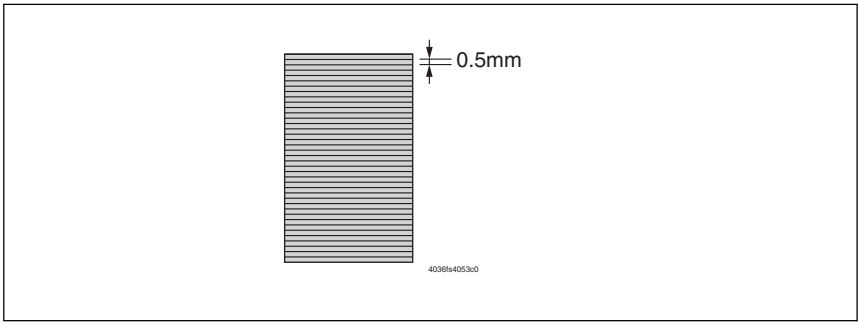


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A blank copy occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
2	Imaging Unit	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
3		The PC Drum Charge Corona voltage contact or PC Drum ground contact of the Imaging Unit is connected properly.	NO	Check, clean, or correct the contact.
4	High Voltage Unit/1 (Image Transfer, Neutralizing)	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step4.	NO	Change High Voltage Unit/1 (Image Transfer, Neutralizing). → Change MFP Control Board → Change Copier Board → Change LED Drive Board → Change LPH Unit.

18.3.24 Printer Monocolor: 0.5-mm-pitch uneven image

A. Typical Faulty Images

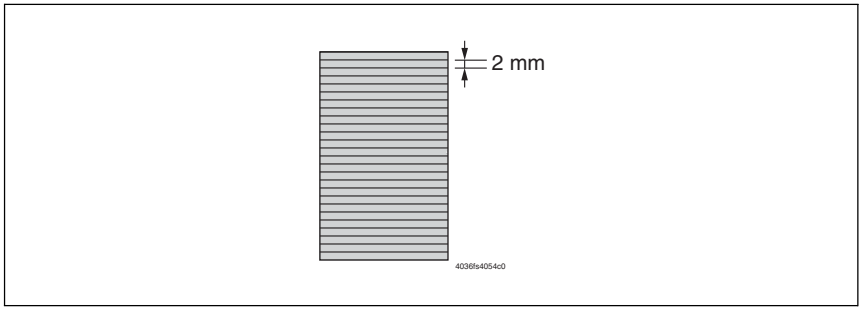


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
			YES	Change Imaging Unit.

18.3.25 Printer Monocolor: 2-mm-pitch uneven image

A. Typical Faulty Images

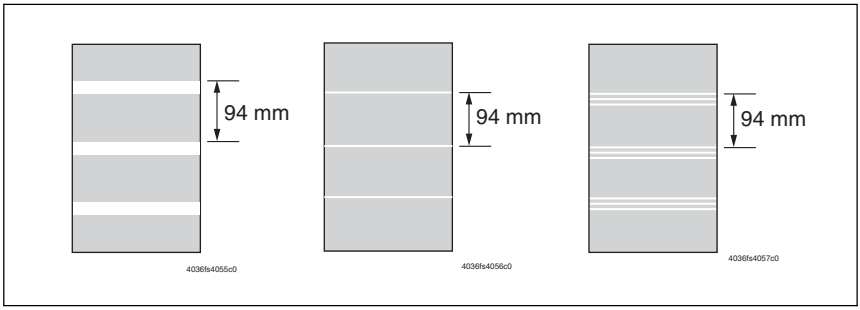


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The drive mechanisms for spent toner conveying and IU are dirty.	YES	Clean.
			NO	Change Imaging Unit.

18.3.26 Printer Monocolor: 94-mm-pitch uneven image

A. Typical Faulty Images

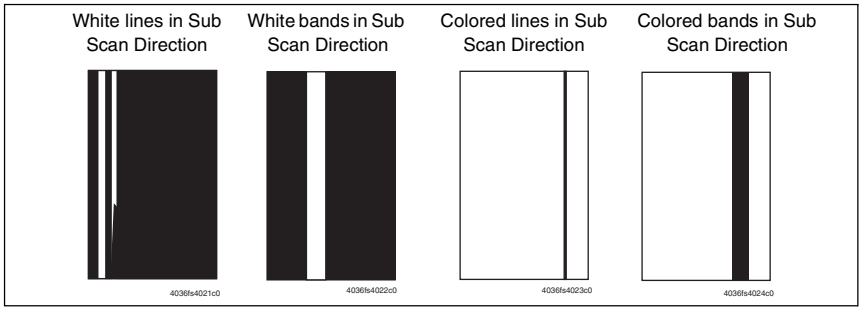


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2		Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change Imaging Unit.
3		There is play in the IU Motor.	YES	Reinstall or change the IU Motor.
4	Image Transfer Belt Unit	Image Transfer Belt Unit drive gear has chipped off.	YES	Correct. Change Image Transfer Belt Unit.
5	Image Transfer Roller Unit	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Imaging Unit.

18.3.27 Printer 4-Color: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction

A. Typical Faulty Images

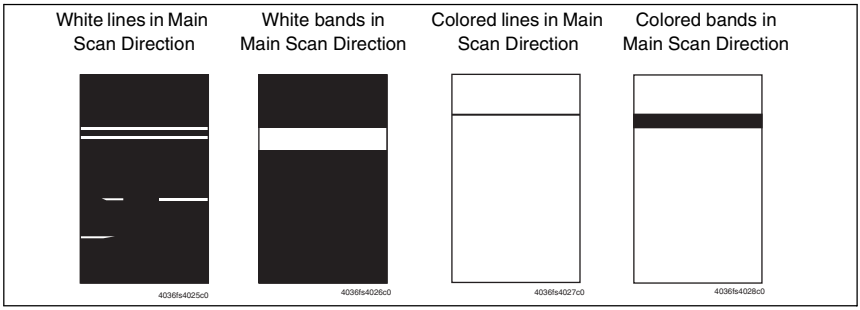


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A white line or colored line in sub scan direction.	YES	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
5	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
8	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
9	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
10		Fusing Paper Separator Fingers are dirty.	YES	Clean.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

18.3.28 Printer 4-Color: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
4	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
7	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
8	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
9		Fusing Paper Separator Fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

18.3.29 Printer 4-Color: uneven density in sub scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. Change Image Transfer Belt Unit.

18.3.30 Printer 4-Color: uneven density in main scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.31 Printer 4-Color: low image density

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change Image Transfer Roller Unit.
5	IDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 10.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of D Max Density.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.32 Printer 4-Color: poor color reproduction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change Image Transfer Roller Unit.
5	IDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Image Process Adjustment → Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 10.
7	Image Process Adjustment →D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of D Max Density.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.33 Printer 4-Color: incorrect color image registration

A. Typical Faulty Images

B. Troubleshooting Procedure

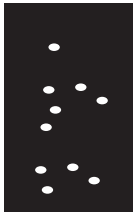
Step	Section	Check Item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the State Confirm screen.
2	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn OFF and ON Main Power Switch.
3	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
4	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
5		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
6		Drive coupling to the machine is dirty.	YES	Clean.
7	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
8	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
9		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
10	Machine → Fusing Transport Speed (Service Mode)	Brush effect or blurred image occurs.	YES	Readjust Fusing Transport Speed.
11	Machine → Color registration Adjustment (Service Mode)	Check the specific color in which color shift occurs.	YES	Perform “Color registration Adjustment.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
12		The problem has been eliminated through the checks of steps up to 11.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

18.3.34 Printer 4-Color: void areas, white spots

A. Typical Faulty Images

Void areas White spots

4036fs4050c0



4036fs4051c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 413
2		There are void areas in the trailing edge.	YES	Perform “Transfer Adjust” of “Image Process Adjustment” under Service Mode.
3	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Transfer Belt Unit if belt is damaged.
5	Transfer Roller Unit	Transfer Roller is dirty or scratched.	YES	Change Transfer Roller Unit.
6		Charge Neutralizing Cloth is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-Image Transfer Guide Plate is damaged or dirty.	YES	Clean or change.
9	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. Change Image Transfer Belt Unit.

18.3.35 Printer 4-Color: colored spots

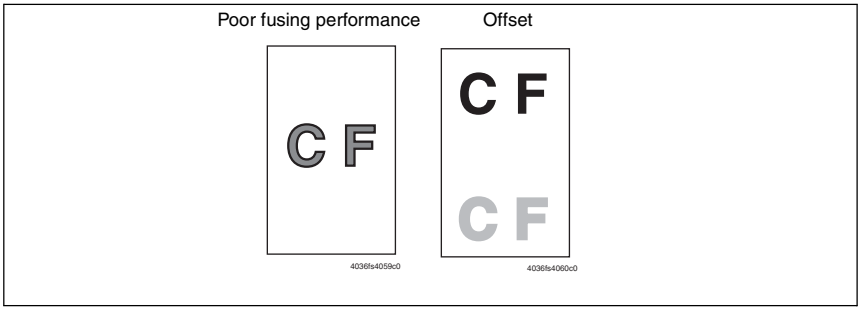
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
7	Fusing Unit	Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change Fusing Unit.

18.3.36 Printer 4-Color: poor fusing performance, offset

A. Typical Faulty Images

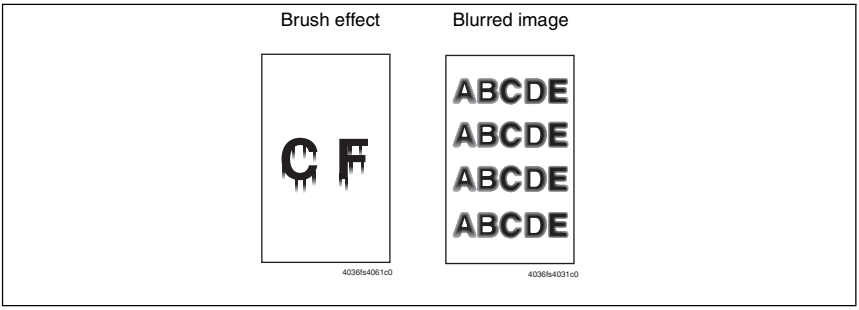


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Machine → Fusing Temperature (Service Mode)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust Fusing Temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change Fusing Unit.

18.3.37 Printer 4-Color: brush effect, blurred image

A. Typical Faulty Images

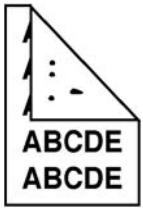


B. Troubleshooting Procedure

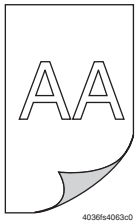
Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2		Paper type does not match.	YES	Change the setting.
3	Fusing Unit	Fusing Entrance Guide Plate is dirty.	YES	Clean.
4		Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
5	Machine → Fusing Transport Speed (Service Mode)	Changing fusing speed eliminates the problem of brush effect and blurred image.	YES	Readjust Fusing Transport Speed.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Fusing Unit.

18.3.38 Printer 4-Color: back marking

A. Typical Faulty Images



4036fs4062c0



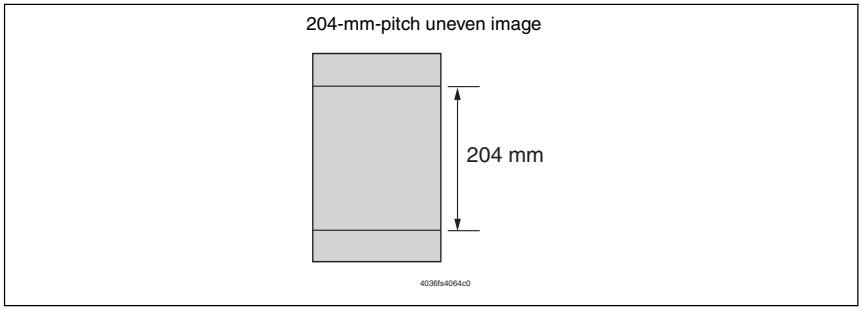
4036fs4063c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Roller Unit	Image Transfer Roller is scratched or dirty.	YES	Change Image Transfer Roller Unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing Unit	Fusing Entrance Guide Plate is scratched or dirty.	YES	Clean or change.
4		Lower Fusing Roller is scratched or dirty.	YES	Change Fusing Unit.
5	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change Fusing Unit. → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

18.3.39 Printer 4-Color: 204-mm-pitch uneven image

A. Typical Faulty Images

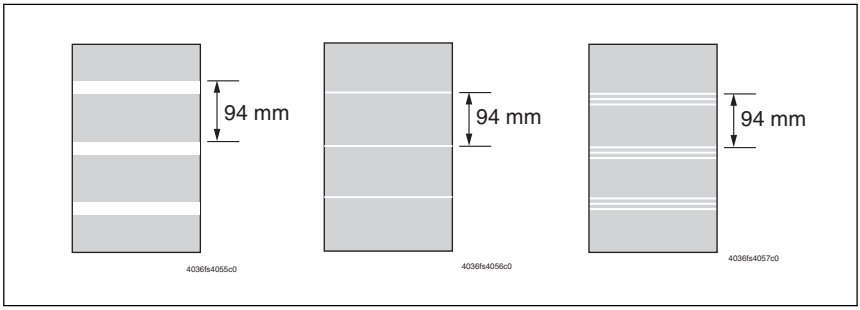


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Fusing Unit	The Fusing Belt is scratchy.	YES	Change Fusing Unit.

18.3.40 Printer 4-Color: 94-mm-pitch uneven image

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2	Image Transfer Belt Unit	The Image Transfer Belt Unit drive gear is intact.	NO	Correct. Change Image Transfer Belt Unit.
3	Image Transfer Roller Unit	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.

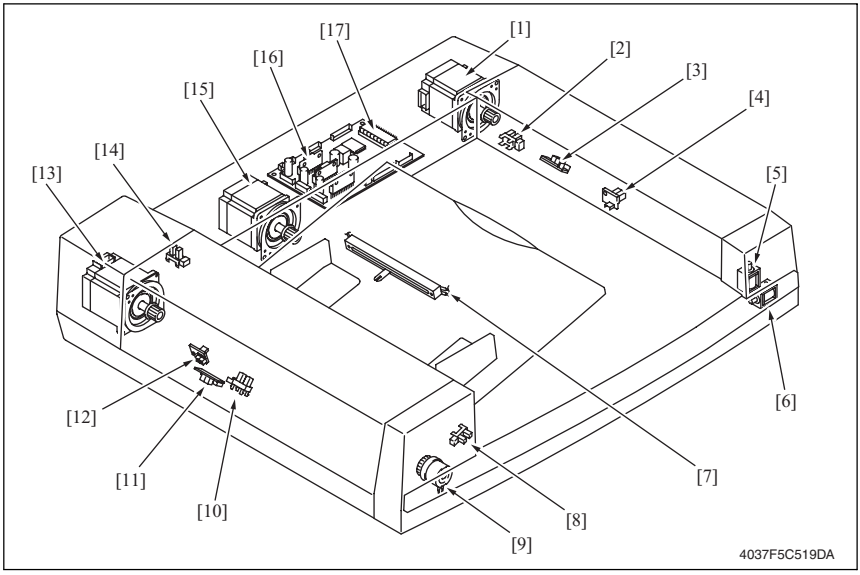
Blank Page

Appendix

19. Parts layout drawing

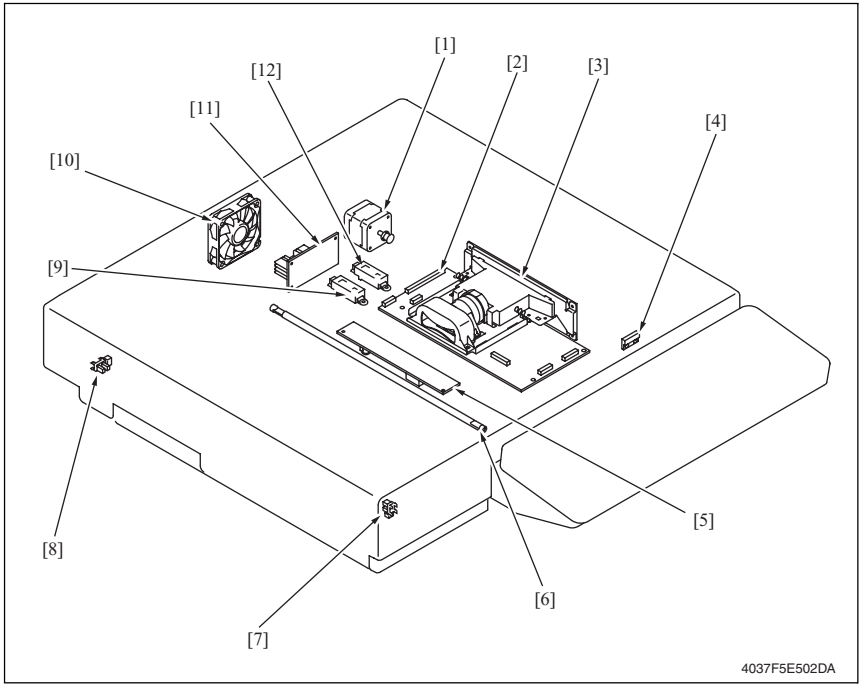
19.1 Main unit

19.1.1 ADF section



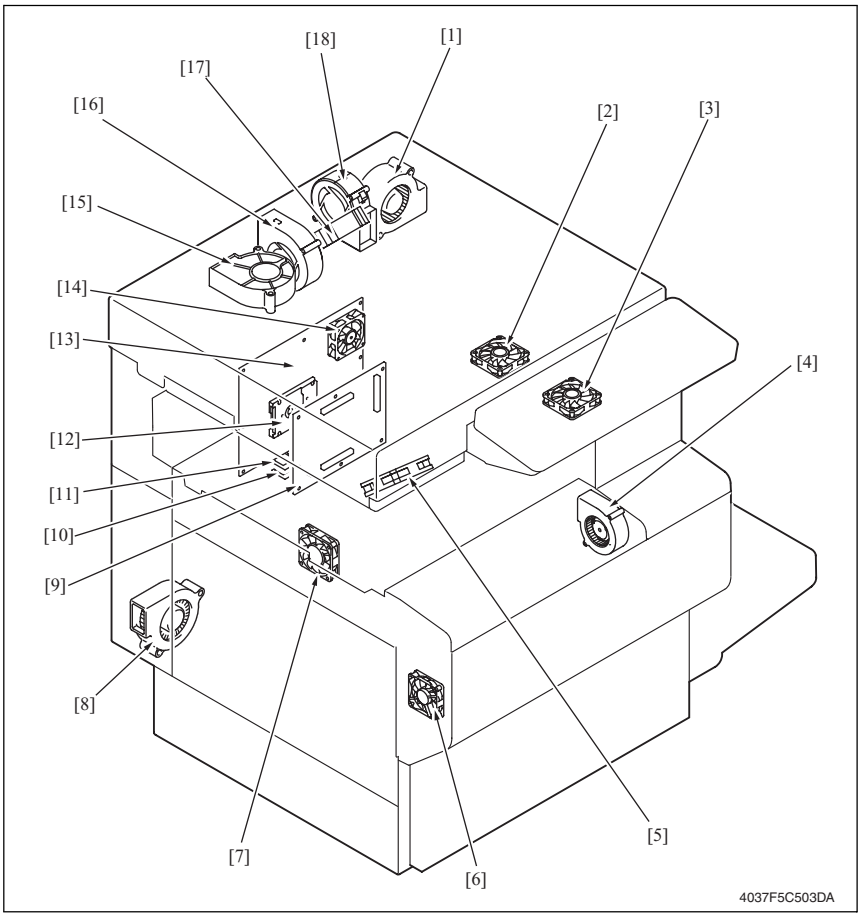
[1] Exit Motor (M3-DF)
[2] Exit Cover Sensor (PC7-DF)
[3] Exit Sensor (PC6-DF)
[4] Turnover Sensor (PC5-DF)
[5] Exit Solenoid (SL2-DF)
[6] Turnover Solenoid (SL1-DF)
[7] Document Size Volume (R1-DF)
[8] Tray Open/Close Sensor (PC8-DF)
[9] Registration Clutch (CL1-DF)
[10] Empty Sensor (PC4-DF)
[11] Pick-up Sensor (PC2-DF)
[12] Registration Sensor (PC1-DF)
[13] Take-up Motor (M1-DF)
[14] Take-up Cover Sensor (PC3-DF)
[15] Transport Motor (M2-DF)
[16] Control Board (PWB-A DF)
[17] ROM (IC7-DF)

19.1.2 IR section

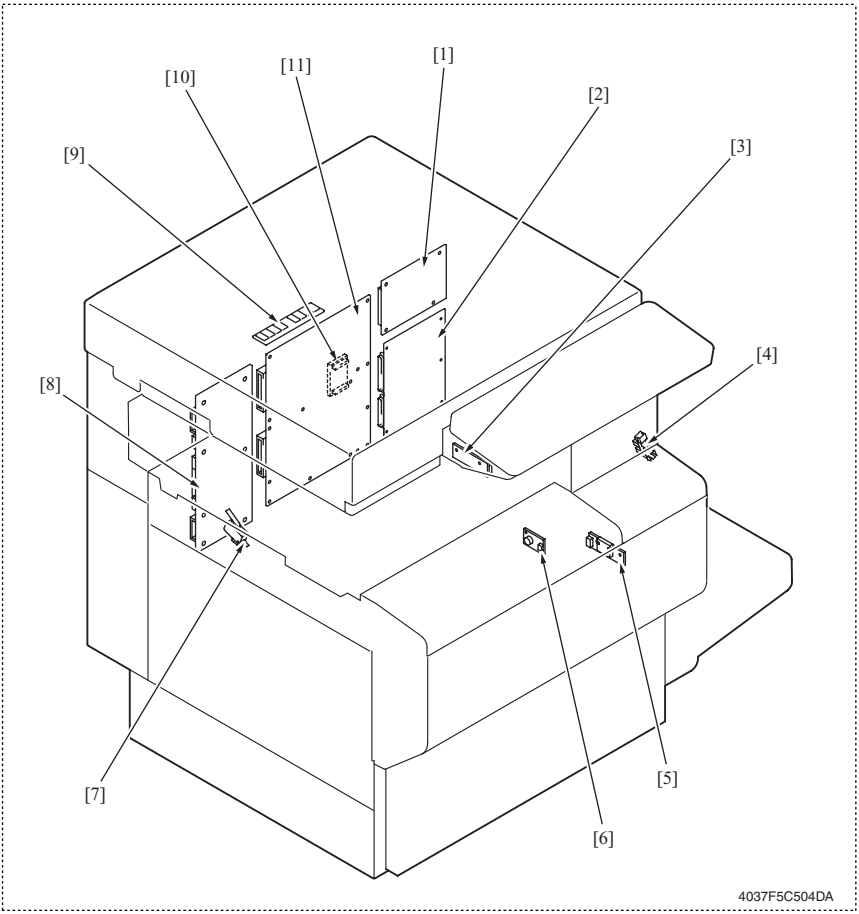


[1] Scanner Motor (M201)
[2] Image Processing Board (PWB-C)
[3] CCD Sensor Board (PWB-A)
[4] Size Reset Switch (SW201)
[5] Inverter Board (PU201)
[6] Exposure Lamp (FL201)
[7] Scanner Home Sensor (PC201)
[8] Original Cover Angle Sensor (PC202)
[9] Original Size Sensor FD1 (PC203)
[10] Scanner Cooling Fan Motor (M202)
[11] Scanner Motor Drive Board (PWB-IC)
[12] Original Size Sensor FD2 (PC204)

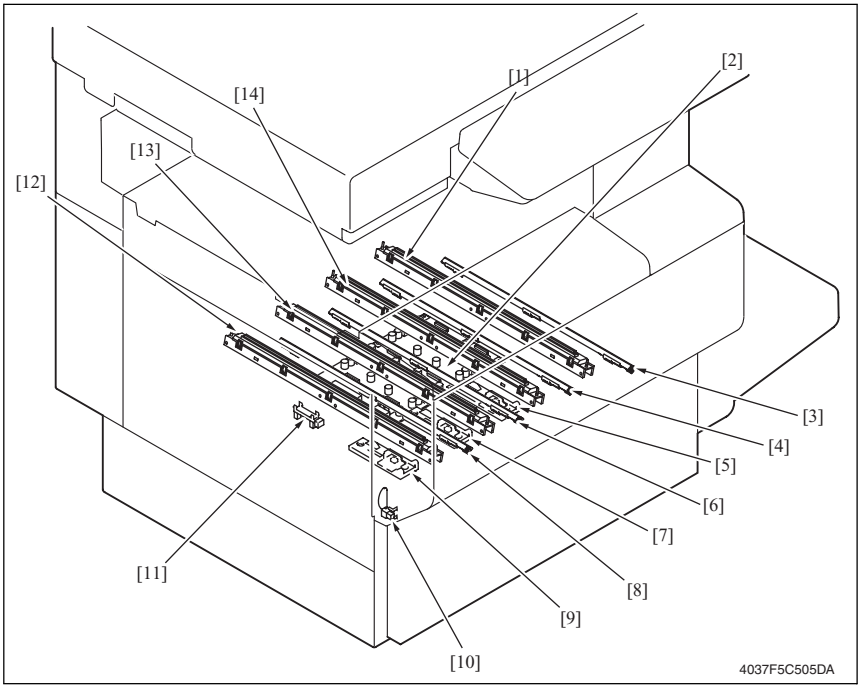
19.1.3 Engine section



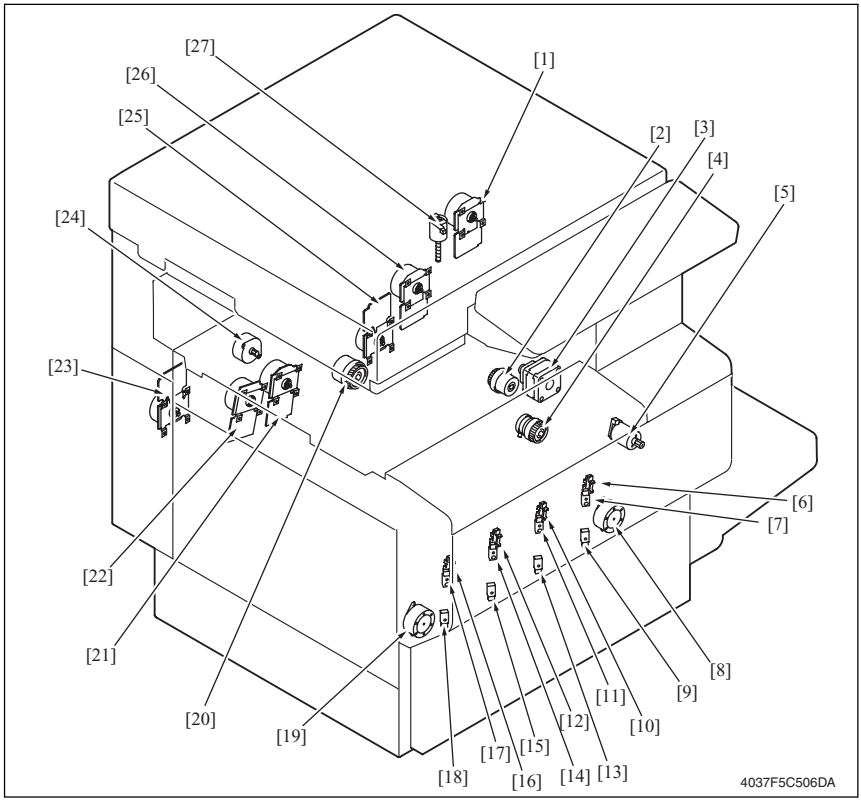
[1]	Fusing Cooling Fan Motor/1 (M9)	[10]	Standard Memory (D_FILE0)
[2]	Fusing Cooling Fan Motor/2 (M15)	[11]	Standard Memory (D_FILE0)
[3]	Fusing Cooling Fan Motor/3 (M16)	[12]	Hard Disk Drive (HDD)
[4]	Suction Fan Motor (M12)	[13]	Control Board (PWB-MC)
[5]	Cooling Fan Motor/1 (M24)	[14]	MFP Control Board Cooling Fan Motor (M27)
[6]	Cooling Fan Motor/3 (M25)	[15]	Toner Suction Fan Motor (M20)
[7]	Power Supply Cooling Fan Motor (M21)	[16]	Toner Suction Fan Motor/K (M23)
[8]	Ozone Ventilation Fan Motor (M18)	[17]	Cooling Fan Motor/2 (M10)
[9]	Electronic sorting Board (PWB-ES)	[18]	Paper Cooling Fan Motor (M26)



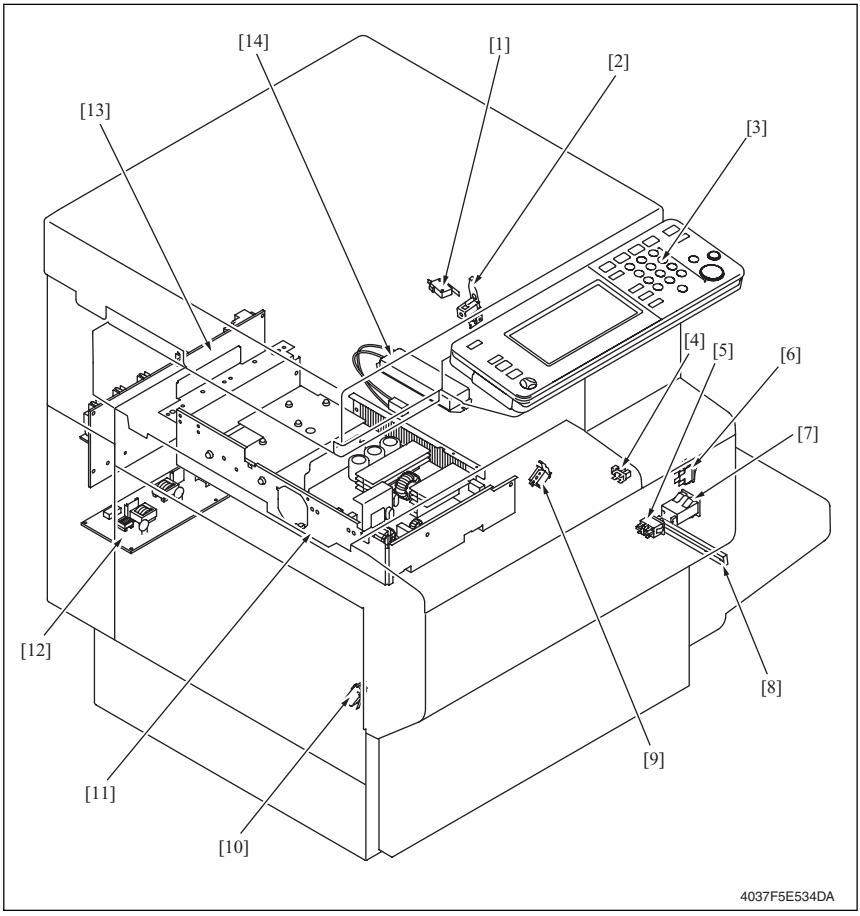
[1] LAN Board (PWB-LAN)
[2] Copier Board (PWB-CF)
[3] IDC/Registration Sensor/2 (PC9)
[4] Fusing Pressure/Retraction Sensor (PC33)
[5] IDC/Registration Sensor/1 (PC8)
[6] Temperature/humidity Sensor (PC7)
[7] Left Door Switch (SW3)
[8] Slide Interface Board (PWB-SIF)
[9] Work Memory (D_WORK0)
[10] NVRAM Board (PWB-NVR)
[11] MFP Control Board (PWB-MFPC)



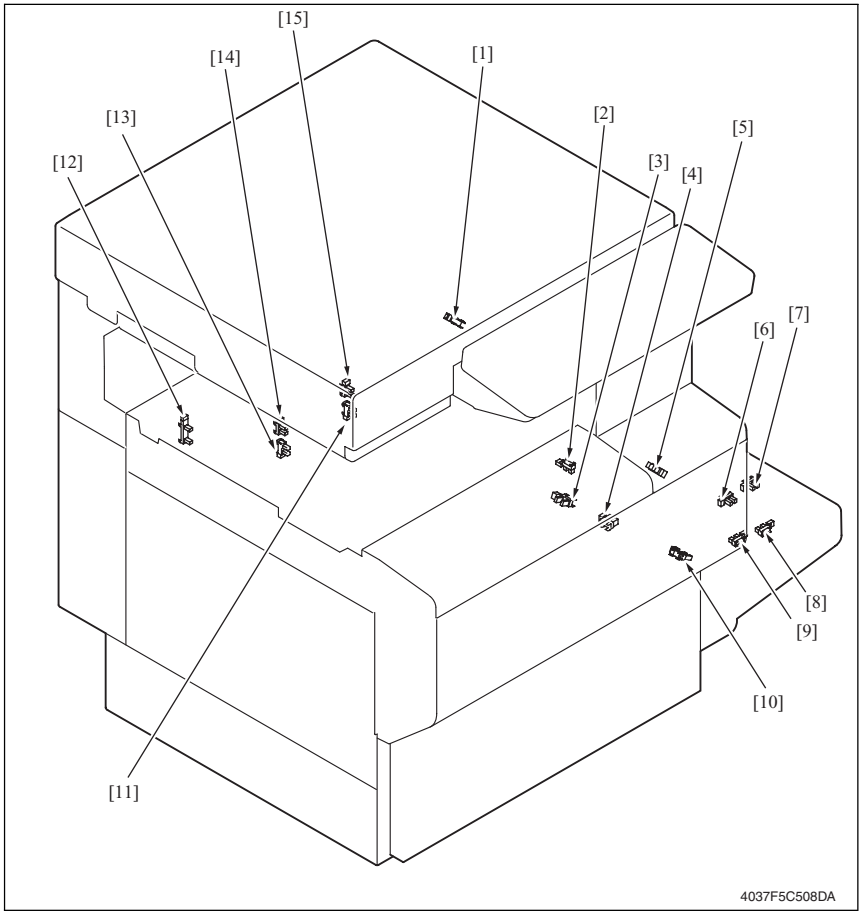
[1] LPH Assy/K (LPH K)
[2] LED Drive Board (PWB-LED)
[3] Main Erase Lamp/K (LA4)
[4] Main Erase Lamp/C (LA3)
[5] ATDC Sensor/C (PWB-N3)
[6] Main Erase Lamp/M (LA2)
[7] ATDC Sensor/M (PWB-N2)
[8] Main Erase Lamp/Y (LA1)
[9] ATDC Sensor/Y (PWB-N1)
[10] Waste Toner Bottle Set Sensor (PC32)
[11] Waste Toner Full Sensor (PC31)
[12] LPH Assy/Y (LPH Y)
[13] LPH Assy/M (LPH M)
[14] LPH Assy/C (LPH C)



[1]	Fusing Drive Motor (M2)	[15]	Toner Near-Empty Sensor PQ/M (PC16)
[2]	Registration Roller Clutch (CL3)	[16]	Toner Set Sensor/Y (PC25)
[3]	Intermediate Transport Motor (M14)	[17]	Toner Near-Empty Sensor LED/Y (PC21)
[4]	Bypass Paper Feed Clutch (CL101)	[18]	Toner Near-Empty Sensor PQ/Y (PC15)
[5]	2nd Image Transfer Pressure/Retraction Motor (M13)	[19]	Toner Supply Motor Y/M (M4)
[6]	Toner Set Sensor/K (PC20)	[20]	Developing Clutch/K (CL2)
[7]	Toner Near-Empty Sensor LED/K (PC24)	[21]	Color PC Drum Motor (M5)
[8]	Toner Supply Motor C/K (M3)	[22]	Color Developing Motor (M6)
[9]	Toner Near-Empty Sensor PQ/K (PC18)	[23]	Cleaning Brush Motor (M22)
[10]	Toner Set Sensor/C (PC19)	[24]	1st Image Transfer Pressure/Retraction Motor (M11)
[11]	Toner Near-Empty Sensor LED/C (PC23)	[25]	K PC Motor (M7)
[12]	Toner Set Sensor/M (PC26)	[26]	Main Motor (M1)
[13]	Toner Near-Empty Sensor PQ/C (PC17)	[27]	Fusing Pressure Roller Pressure/Retraction Motor (M19)
[14]	Toner Near-Empty Sensor LED/M (PC22)		

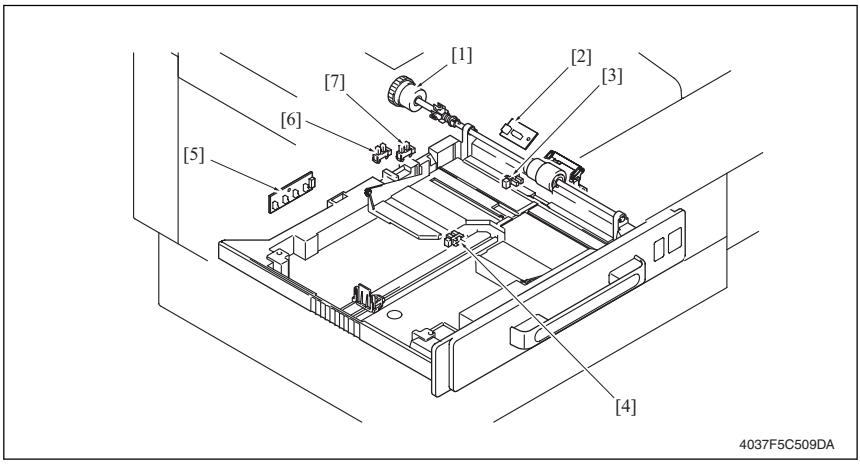


[1]	Right Door Switch (SW2)	[8]	Bypass Paper Size Unit (VR1)
[2]	Fusing Paper Loop Control Solenoid (SL1)	[9]	Bypass Paper Pick-Up Solenoid (SL101)
[3]	Control Panel (UN201)	[10]	Front Door Switch (SW4)
[4]	Fusing Paper Loop Sensor (PC4)	[11]	DC Power Supply (PU1)
[5]	Upper Right Door Switch (SW5)	[12]	High Voltage Unit/2 (HV2)
[6]	Main Power Switch (SW1)	[13]	High Voltage Unit/1 (HV1)
[7]	Counter/K (CNT1)	[14]	Flickerless Resistor (R2) (220-240 V areas only)



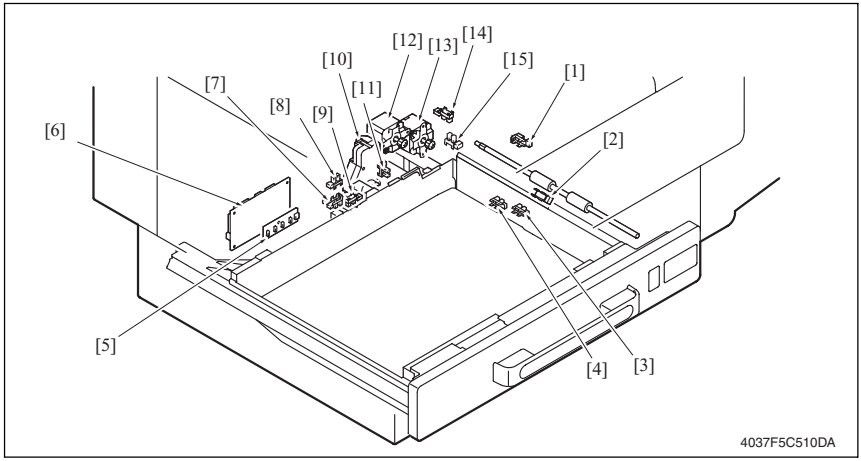
[1] Fusing Retraction Position Sensor (PC34)
[2] Registration Roller Sensor (PC28)
[3] 2nd Image Transfer Pressure /Retraction Sensor (PC29)
[4] OHP Sensor (PC27)
[5] Exit Sensor (PC30)
[6] Bypass FD Paper Size Sensor/4 (PC114)
[7] Bypass FD Paper Size Sensor/3 (PC113)
[8] Bypass FD Paper Size Sensor/1 (PC111)
[9] Bypass FD Paper Size Sensor/2 (PC112)
[10] Bypass Paper Empty Sensor (PC110)
[11] K PC Drum Main Sensor (PC11)
[12] 1st Image Transfer Retraction (PC12)
[13] Color PC Drum Main Sensor (PC10)
[14] Color PC Drum Sub Sensor (PC35)
[15] K PC Drum Sub Sensor (PC36)

19.1.4 Tray 1



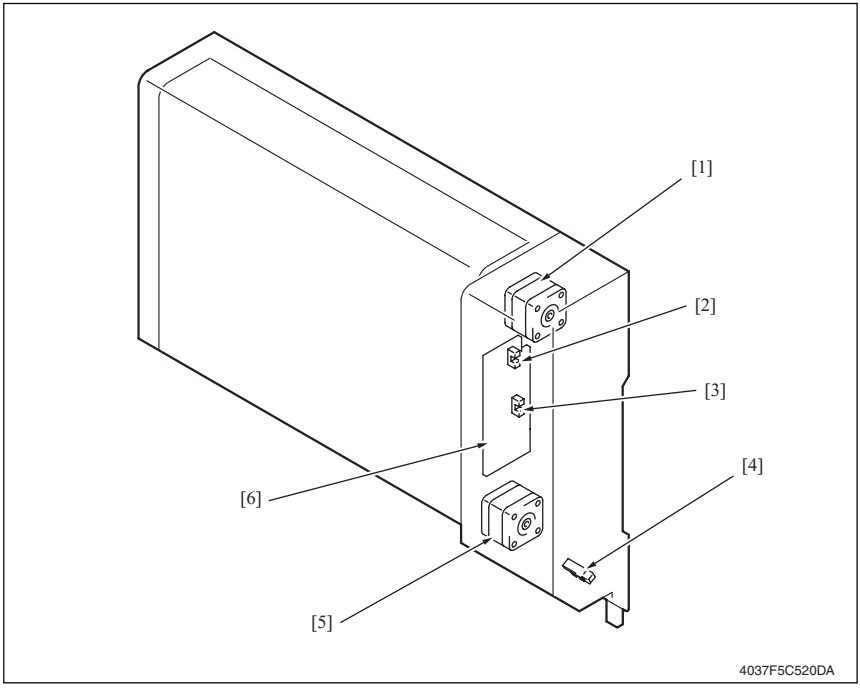
[1] Tray 1 Paper Feed Clutch (CL1)
[2] Tray 1 Double Feed Sensor (PC1)
[3] Tray 1 Paper Empty Sensor (PC2)
[4] Tray 1 CD Paper size Sensor (PC3)
[5] Tray 1 Paper Size Board (PWB-I1)
[6] Tray 1 Paper Near-Empty Sensor (PC13)
[7] Tray 1 Set Sensor (PC14)

19.1.5 Tray 2



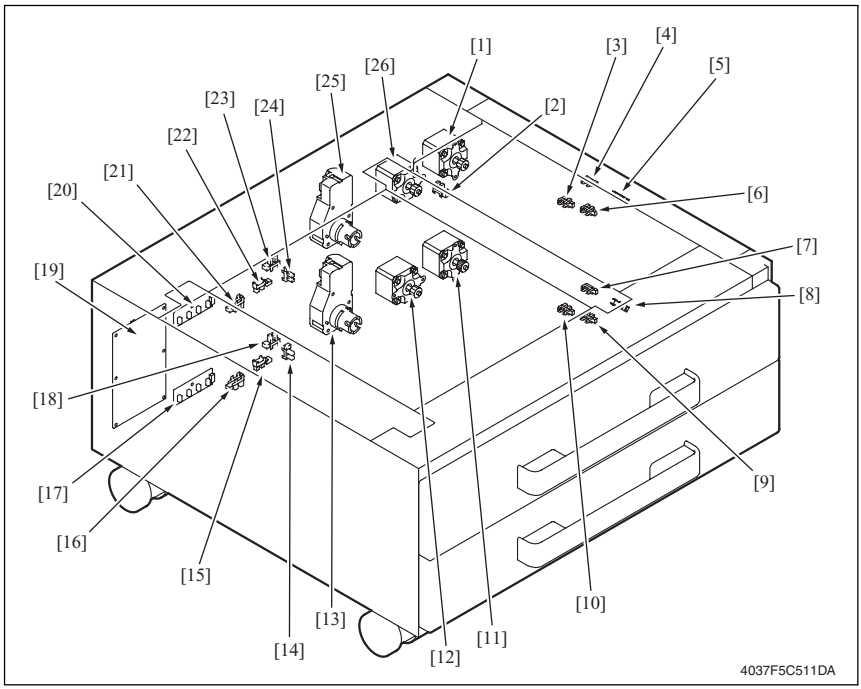
[1] Tray 2 Vertical Transport Sensor (PC108)
[2] Tray 2 Paper Take-Up Sensor (PC107)
[3] Tray 2 Paper Empty Sensor (PC106)
[4] Tray 2 Lift-Up Sensor(PC105)
[5] Tray 2 Paper Size Board (PWB-I2)
[6] Tray 2 Board (PWB-Z)
[7] Tray 2 CD Paper Size Sensor/L (PC102)
[8] Tray 2 Set Sensor (PC103)
[9] Tray 2 CD Paper Size Sensor/S (PC101)
[10] Tray 2 Lift-Up Motor (M101)
[11] Tray 2 Paper Near-Empty Sensor (PC104)
[12] Tray 2 Paper Feed Motor (M102)
[13] Tray 2 Vertical Transport Motor (M103)
[14] Bypass Lift-Up Sensor (PC115)
[15] Tray 2 Door Set sensor (PC109)

19.1.6 Duplex section



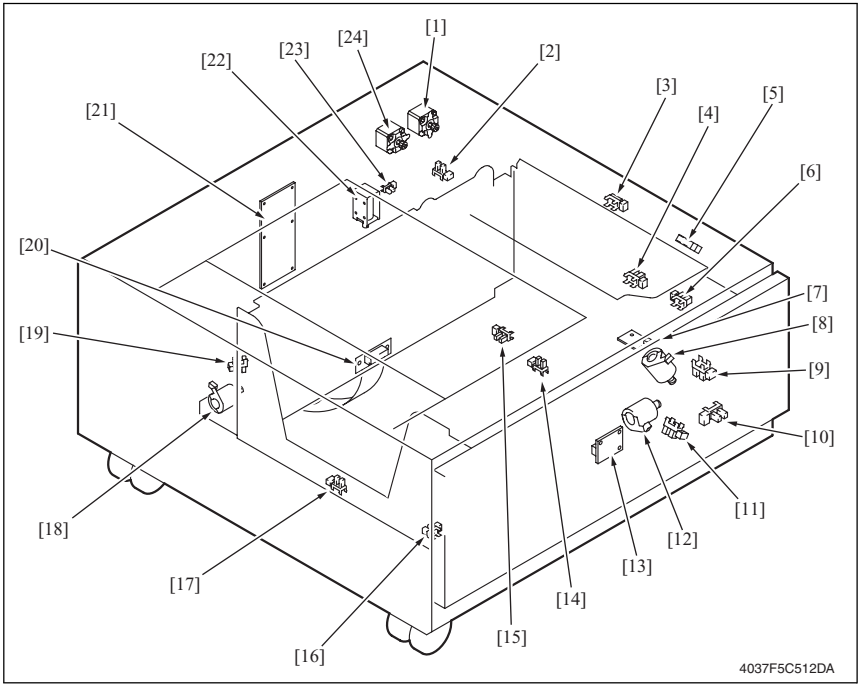
[1]	Switchback Motor (M1-DU)	[4]	Duplex Unit Transport Sensor 2 (PC1-DU)
[2]	Duplex Unit Door Set Sensor (in PWB-A) (PI2-DU)	[5]	Duplex Unit Transport Motor (M2-DU)
[3]	Duplex Unit Transport Sensor 1 (in PWB-A) (PI1-DU)	[6]	Duplex Control Board (PWB-A DU)

19.2 PC102/PC202 (Option)



[1]	Tray 3 Transport Roller Motor (M120-PF)	[14]	Tray 4 Paper Near-Empty Sensor (PC122-PF)
[2]	Door Set Sensor (PC111-PF)	[15]	Tray 4 CD Paper Size Sensor 2 (PC128-PF)
[3]	Tray 3 Lift-Up Upper Limit Sensor (PC114-PF)	[16]	Tray 4 CD Paper Size Sensor 1 (PC127-PF)
[4]	Tray 3 Vertical Transport Sensor (PC117-PF)	[17]	Tray 4 FD Paper Size Detection Board (PWB-I4 PF)
[5]	Tray 3 Paper Take-Up Sensor (PC116-PF)	[18]	Tray 4 Set Sensor (PC121-PF)
[6]	Tray 3 Paper Empty Sensor (PC115-PF)	[19]	Main Control Board (PWB-C2 PF)
[7]	Tray 4 Vertical Transport Sensor (PC126-PF)	[20]	Tray 3 FD Paper Size Detection Board (PWB-I3 PF)
[8]	Tray 4 Paper Take-Up Sensor (PC125-PF)	[21]	Tray 3 CD Paper Size Sensor 1 (PC118-PF)
[9]	Tray 4 Paper Empty Sensor (PC124-PF)	[22]	Tray 3 CD Paper Size Sensor 2 (PC119-PF)
[10]	Tray 4 Lift-Up Sensor (PC123-PF)	[23]	Tray 3 Set Sensor (PC112-PF)
[11]	Tray 4 Transport Roller Motor (M121-PF)	[24]	Tray 3 Paper Near-Empty Sensor (PC113-PF)
[12]	Tray 4 Paper Feed Motor (M123-PF)	[25]	Lift-Up Motor 1 (M124-PF)
[13]	Tray 4 Lift-Up Motor (M125-PF)	[26]	Tray 3 Paper Feed Motor (M122-PF)

19.3 PC-402 (Option)



[1] Transport Roller Motor (M2-LCT)

[2] Right Lower Door Sensor (PC5-LCT)

[3] LCT Vertical Transport Sensor (PC2-LCT)

[4] Tray Upper Limit Sensor (PC4-LCT)

[5] Paper Feed Sensor (PC1-LCT)

[6] Upper Paper Empty Sensor (PC3-LCT)

[7] Paper Empty Board (PWB-E LCT)

[8] Elevator Motor (M5-LCT)

[9] Elevator Motor Pulse Sensor (PC10-LCT)

[10] Lower Limit Sensor (PC7-LCT)

[11] Shift Motor Pulse Sensor (PC8-LCT)

[12] Shift Motor (M4-LCT)

[13] Paper Descent Key (UN1-LCT)

[14] Shifter Return Position Sensor (PC11-LCT)

[15] Tray Lower Position Sensor (PC13-LCT)

[16] Shift Tray Paper Empty Sensor (PC9-LCT)

[17] Shifter Home Position Sensor (PC12-LCT)

[18] Shift Gate Motor (M3-LCT)

[19] Shift Gate Home Position Sensor (PC14-LCT)

[20] Interface Board (PWB-H LCT)

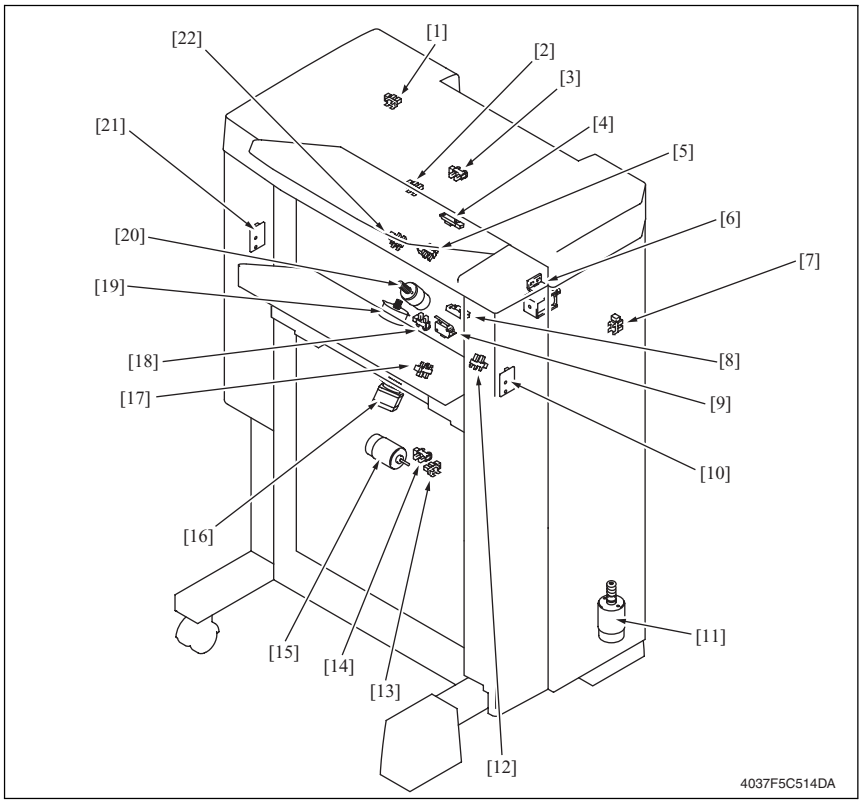
[21] Main Control Board (PWB-C1 LCT)

[22] Tray Lock Solenoid (SL1-LCT)

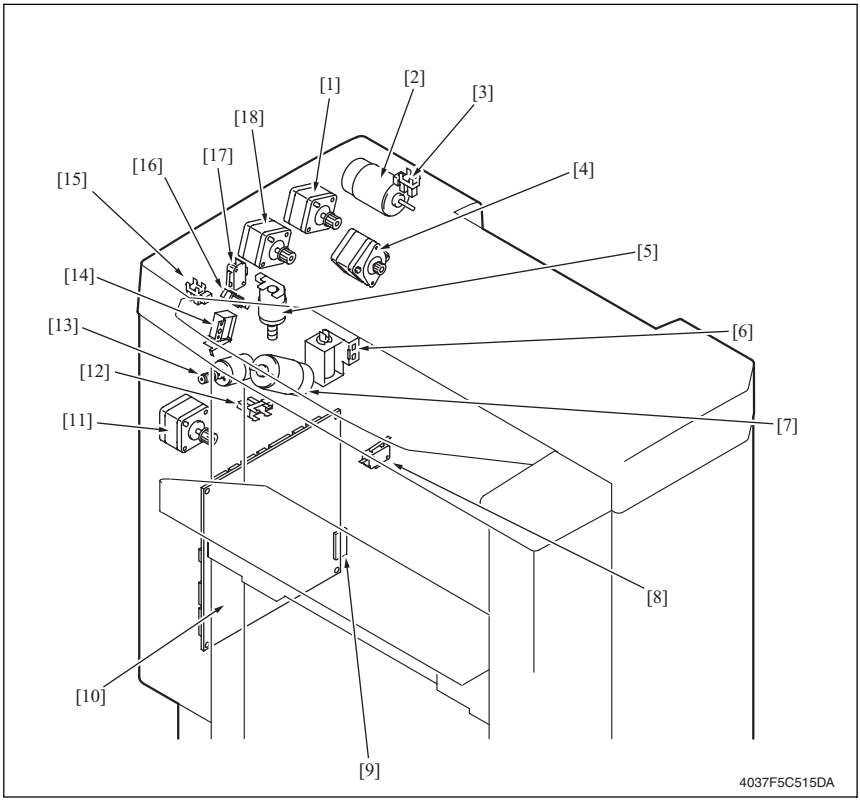
[23] Tray Set Sensor (PC6-LCT)

[24] Paper Feed Motor (M1-LCT)

19.4 FS-507 (Option)

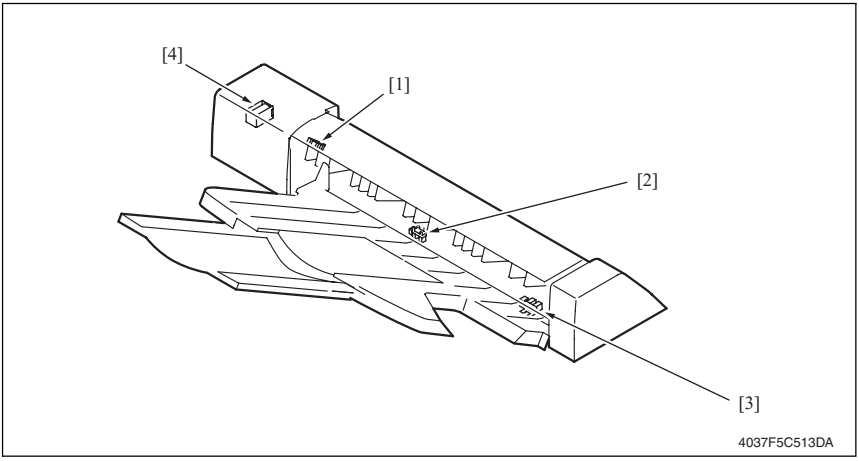


[1]	Upper Cover Sensor (PC18-FN)	[12]	CD Aligning Home Position Sensor (PC9-FN)
[2]	1st Tray Full Sensor (PC6-FN)	[13]	Shift Home Position Sensor (PC10-FN)
[3]	1st Tray Exit Sensor (PC1-FN)	[14]	Shift Motor Pulse Sensor (PC11-FN)
[4]	Lower Entrance Sensor (PC2-FN)	[15]	Shift Motor (M8-FN)
[5]	Storage Sensor (PC3-FN)	[16]	Stapling Unit Moving Motor (M6-FN)
[6]	1st Tray Entrance Switching Solenoid (SL2-FN)	[17]	Staple Home Position Sensor (PC14-FN)
[7]	Front Door Sensor (PC17-FN)	[18]	Elevator Tray Paper Sensor (PC8-FN)
[8]	Finisher Tray Paper Sensor (PC5-FN)	[19]	CD Aligning Motor (M5-FN)
[9]	Elevator Tray Upper Limit Switch (S2-FN)	[20]	Lower Paddle Motor (M9-FN)
[10]	Elevator Tray Upper Limit Sensor LED (PWB-C FN)	[21]	Elevator Tray Upper Limit Sensor PQ (PWB-D FN)
[11]	Elevator Motor (M7-FN)	[22]	Upper Entrance Sensor (PC4-FN)



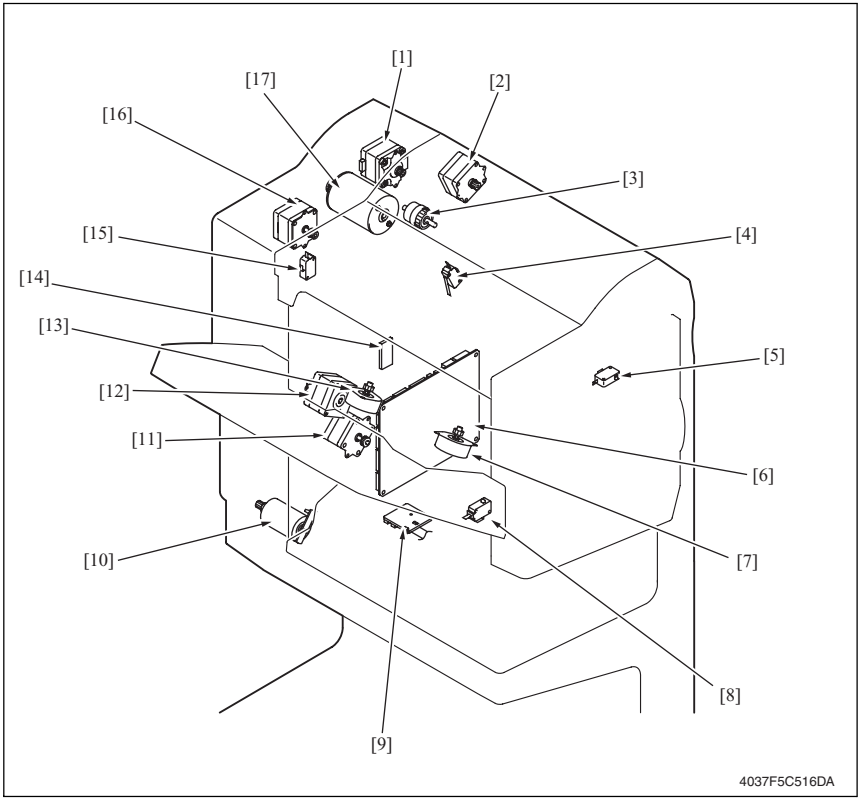
[1]	Upper Entrance Motor (M4-FN)	[10]	Control Board (PWB-A FN)
[2]	Punch Motor (M11-FN)	[11]	Exit Motor (M3-FN)
[3]	Pinch Speed Sensor (PC15-FN)	[12]	Storage Roller Home Position Sensor (PC12-FN)
[4]	Entrance Motor (M1-FN)	[13]	Upper Paddle Motor (M15-FN)
[5]	Exit Roller/Rolls Spacing Motor (M13-FN)	[14]	Upper Paddle Solenoid (SL3-FN)
[6]	Upper/Lower Entrance Switching Solenoid (SL1-FN)	[15]	Elevator Tray Full Sensor (PC7-FN)
[7]	Storage Roller/Rolls Spacing Motor (M12-FN)	[16]	Exit Roller Home Position Sensor (PC13-FN)
[8]	Set Switch (S1-FN)	[17]	Elevator Tray Lower Limit Switch (S3-FN)
[9]	ROM (IC3-FN)	[18]	Lower Entrance Motor (M2-FN)

19.5 JS-601 (Option)

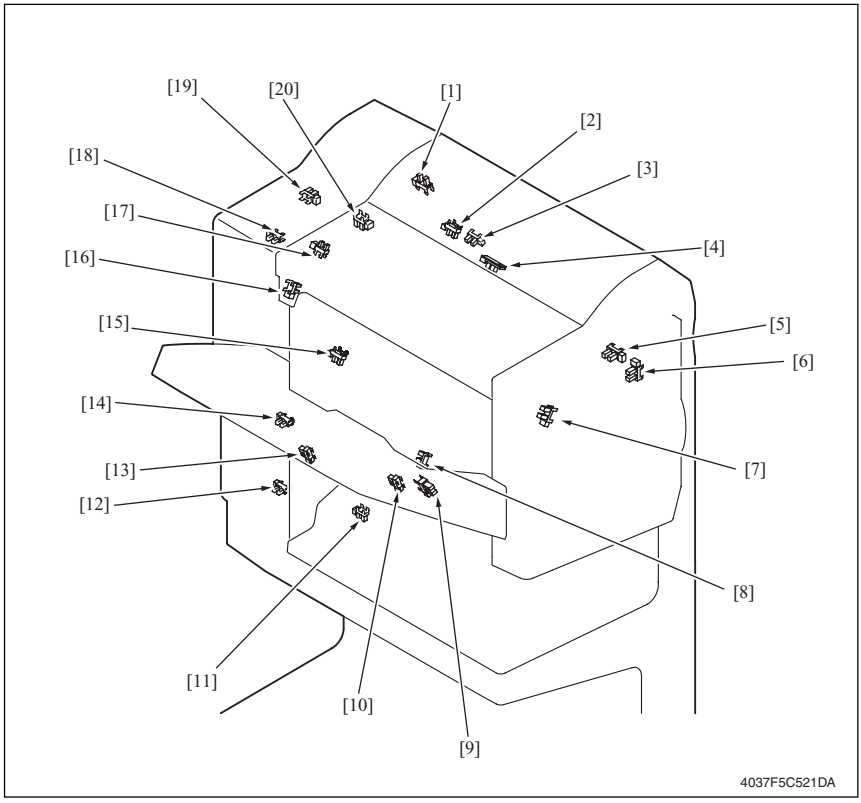


[1] Job Tray Cover Sensor (PC21-FN)
[2] Job Tray Exit Sensor (PC19-FN)
[3] Job Tray Full Sensor (PC20-FN)
[4] 3rd Entrance Switching Solenoid (SL-4)

19.6 FS-603 (Option)

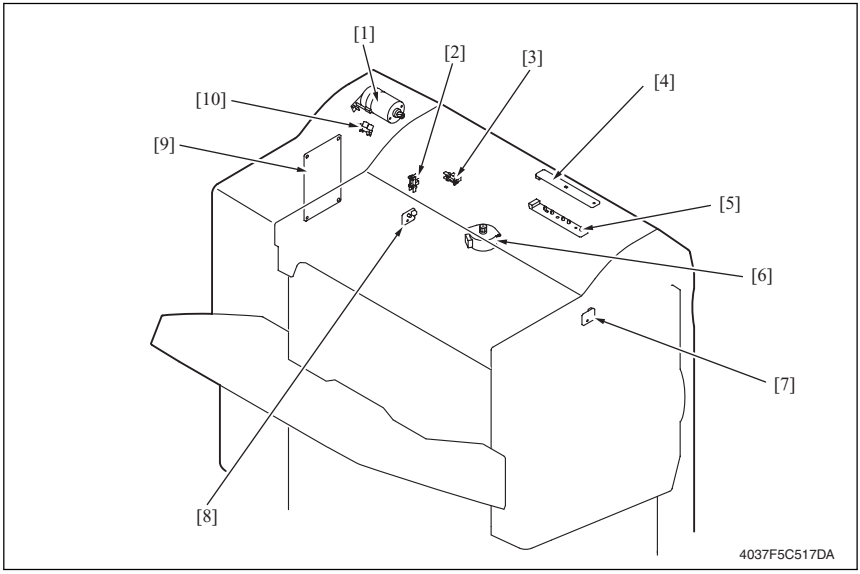


[1] Transport Motor (M1-FN)
[2] Entrance Motor (M9-FN)
[3] Saddle Clutch (CL1-FN)
[4] Joint Open Switch (MS2-FN)
[5] Front Door Open Switch (MS1-FN)
[6] Finisher Control Board (PWB-A FN)
[7] Front Aligning Motor (M4-FN)
[8] Staple Safety Switch (Front) (MS4-FN)
[9] Slide Home Position Sensor (PI18-FN)
[10] Shift Motor (M6-FN)
[11] Slide Motor (M8-FN)
[12] Exit Motor (M3-FN)
[13] Rear Aligning Motor (M5-FN)
[14] ROM (IC6-FN)
[15] Staple Safety Switch (Rear) (MS3-FN)
[16] Paddle Motor (M2-FN)
[17] Staple/Folding Motor (M7-FN)



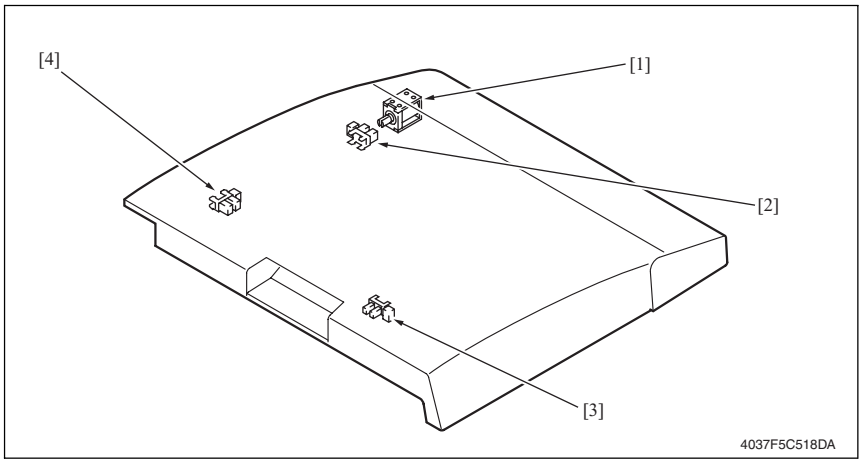
[1]	Entrance Sensor (PI1-FN)	[11]	Saddle Tray Sensor (PI13-FN)
[2]	Folding Roller Home Position Sensor (PI12-FN)	[12]	Shift Motor Clock Sensor (PI17-FN)
[3]	Folding Home Position Sensor (PI11-FN)	[13]	Stack Full Sensor (PI24-FN)
[4]	Folding Position Sensor (PI10-FN)	[14]	Shift Lower Limit Sensor (PI16-FN)
[5]	Upper Cover Open Sensor (PI23-FN)	[15]	Exit Belt Home Position Sensor (PI7-FN)
[6]	Front Door Open Sensor (PI22-FN)	[16]	Rear Aligning Plate Home Position Sensor (PI5-FN)
[7]	Front Aligning Plate Home Position Sensor (PI4-FN)	[17]	Paddle Home Position Sensor (PI2-FN)
[8]	Finisher Tray Sensor (PI6-FN)	[18]	Shift Upper Limit Sensor (PI15-FN)
[9]	Exit Tray Sensor (PI8-FN)	[19]	Staple/Folding Motor Clock Sensor (PI14-FN)
[10]	Exit Tray Home Position Sensor (PI9-FN)	[20]	Swing Guide Home Position Sensor (PI3-FN)

19.7 PK-501 (Option)



[1] Punch Motor (M1P-PK)
[2] Side Registration Home Sensor (PI2P-PK)
[3] Punch Motor Clock Board (PI3P-PK)
[4] Photo Sensor Board (PWB-C PK)
[5] LED Board (PWD-D PK)
[6] Side Registration Motor (M2P-PK)
[7] Punch Trash Full LED Board (PWB-F PK)
[8] Punch Trash Full Photo Sensor Board (PWB-E PK)
[9] Punch Control Board (PWB-B PK)
[10] Punch Home Position Sensor (PI1P-PK)

19.8 Horizontal Transport Unit



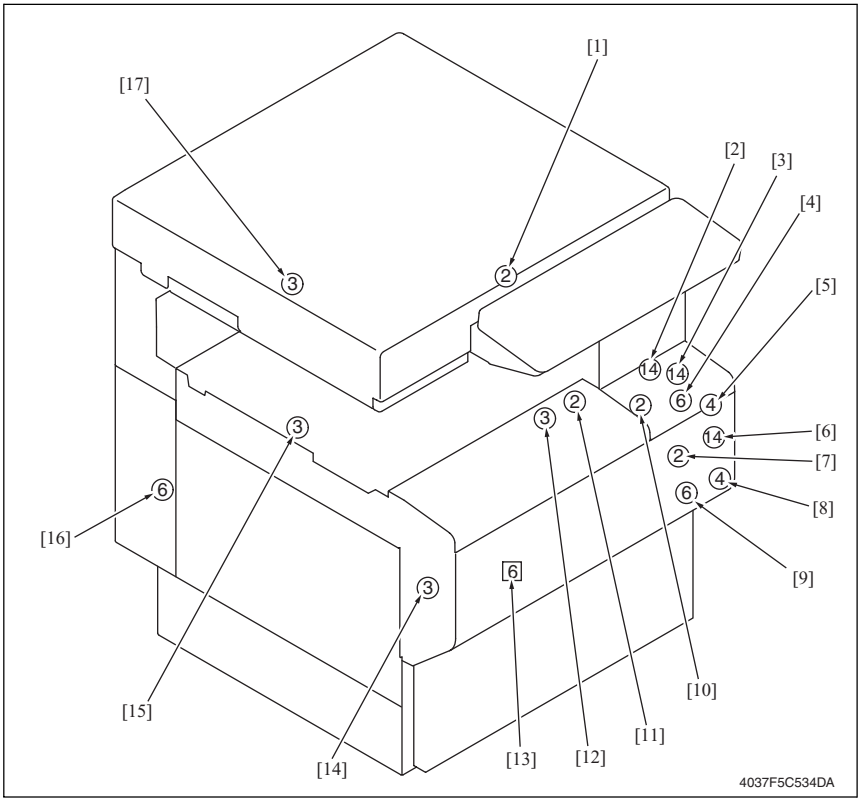
[1] Entrance Switching Solenoid (SL1-HO)
[2] Turnover Empty Sensor (PC6-HO)
[3] Paper Sensor (PC1-HO)
[4] Horizontal Unit Door Sensor (PC4-HO)

20. Connector layout drawing

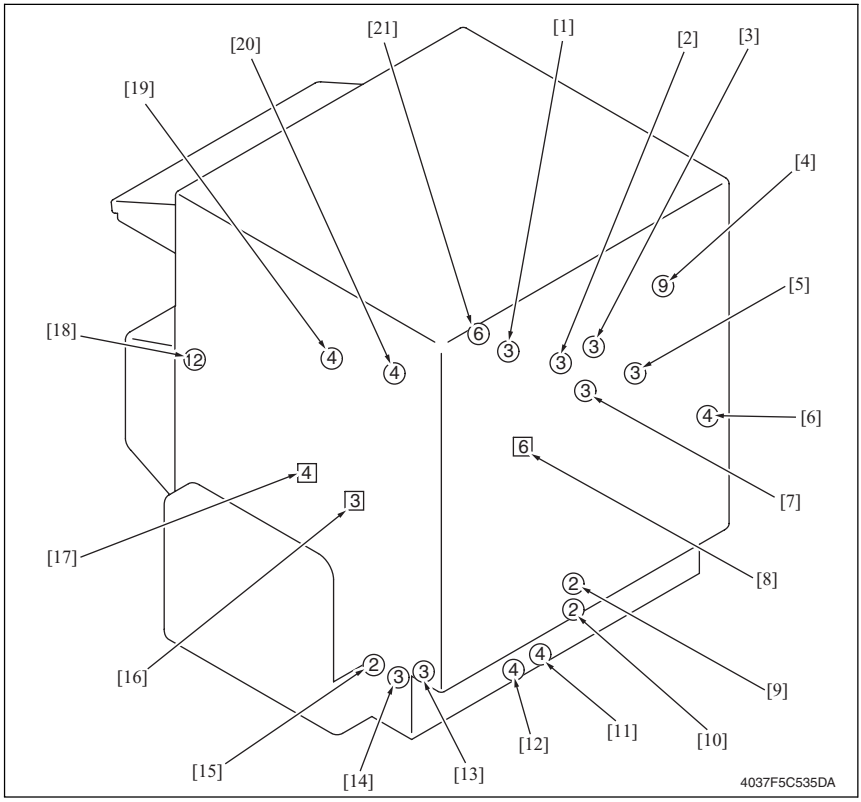
Description

Number of Pin → ① Possible to confirm by removing external cover.

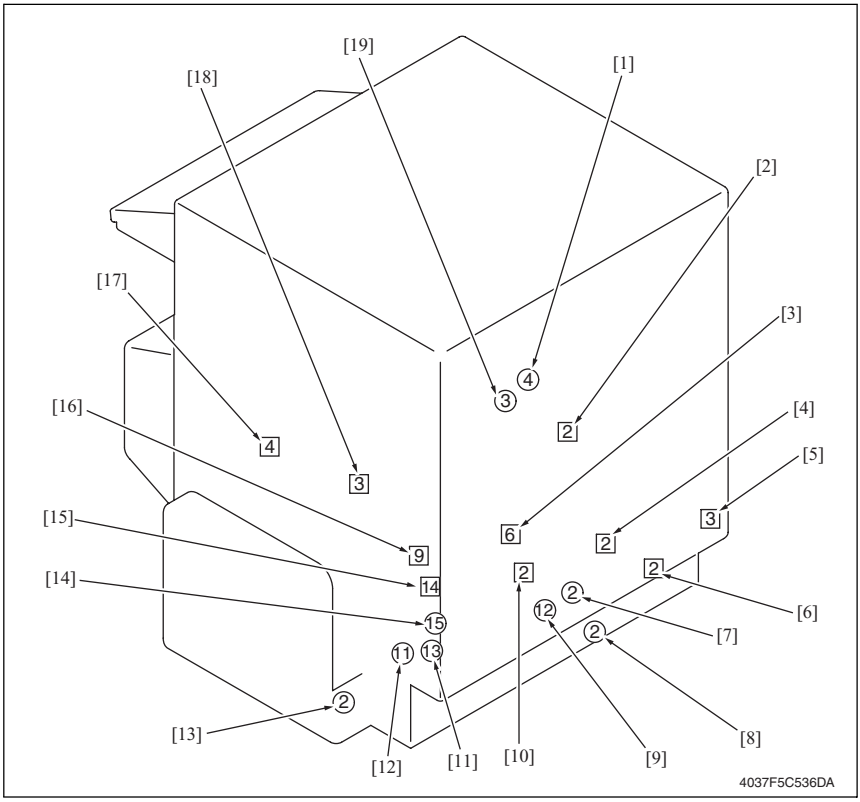
→ [1] Not possible to confirm by removing external cover.



No.	CN No.	Location	No.	CN No.	Location
[1]	CN54	N-13	[10]	CN61	D-12
[2]	CN19	D-25 to 26	[11]	CN45	R-3
[3]	CN18	D-23 to 24	[12]	CN44	R-3
[4]	CN9	E-13 to 14	[13]	CN39	D-14
[5]	CN8	E-13	[14]	CN99	D-11 to 12
[6]	CN10	E-14	[15]	CN40	M-1 to 2
[7]	CN58	R-16	[16]	CN41	U-10 to 11
[8]	CN6	D-4 to 5	[17]	CN98	D-12
[9]	CN4	D-4			



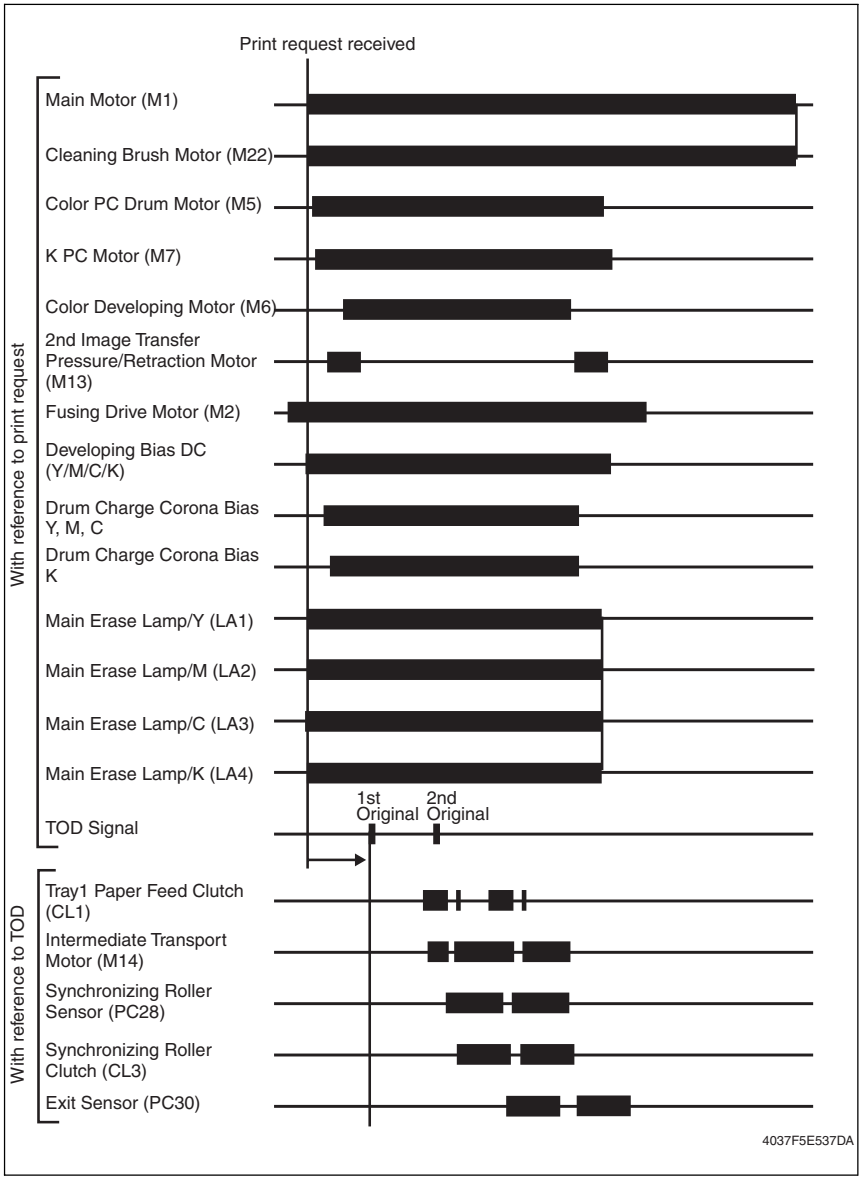
No.	CN No.	Location	No.	CN No.	Location
[1]	CN38	D-8	[12]	CN101	S-22
[2]	CN69	D-21	[13]	CN103	R-22
[3]	CN11	D-20	[14]	CN108	S-25
[4]	CN62	M-18	[15]	CN106	S-24
[5]	CN75	M-17	[16]	CN25	D-2
[6]	CN57	M-17	[17]	CN29	D-1 to 2
[7]	CN22	I-8	[18]	CN7	D-15
[8]	CN14	D-19	[19]	CN32	D-20 to 21
[9]	CN28	N-27	[20]	CN31	D-20
[10]	CN48	M-22	[21]	CN35	R-9
[11]	CN102	S-22			



No.	CN No.	Location	No.	CN No.	Location
[1]	CN72	I-8	[11]	CN105	R-25
[2]	CN5	D-5	[12]	CN104	R-23 to 24
[3]	CN15	D-19	[13]	CN34	S-24
[4]	CN12	J-2	[14]	CN107	R-26
[5]	CN13	I-8	[15]	CN24	E-2 to 3
[6]	CN26	D-3 to 4	[16]	CN27	E-1 to 2
[7]	CN50	J-2	[17]	CN23	I-7
[8]	CN49	N-27	[18]	CN21	D-3
[9]	CN16	N-26 to 27	[19]	CN17	I-9
[10]	CN3	D-5			

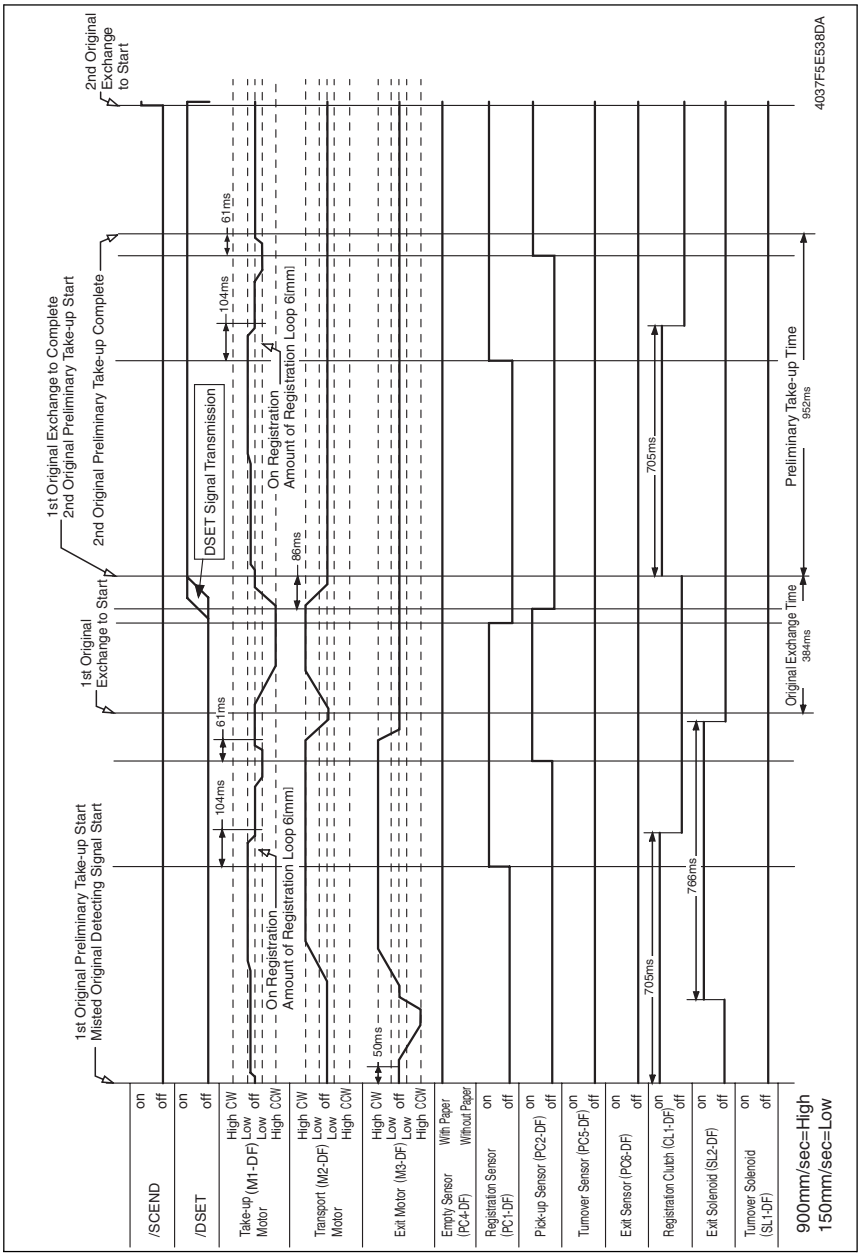
21. Timing chart

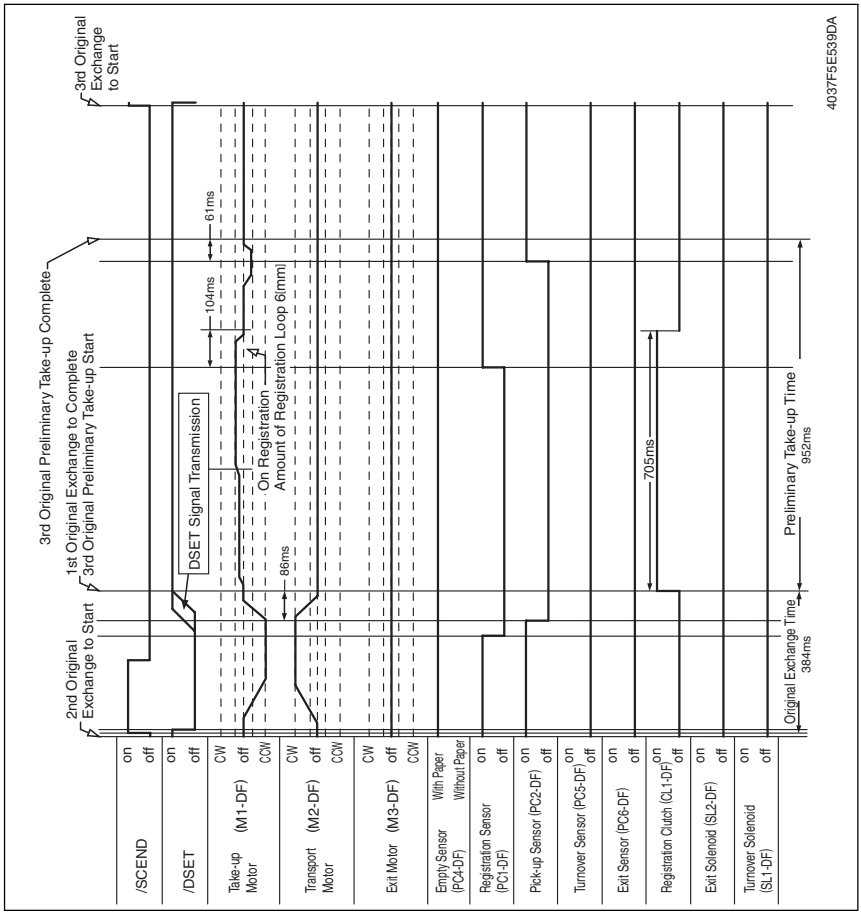
21.1 Main unit

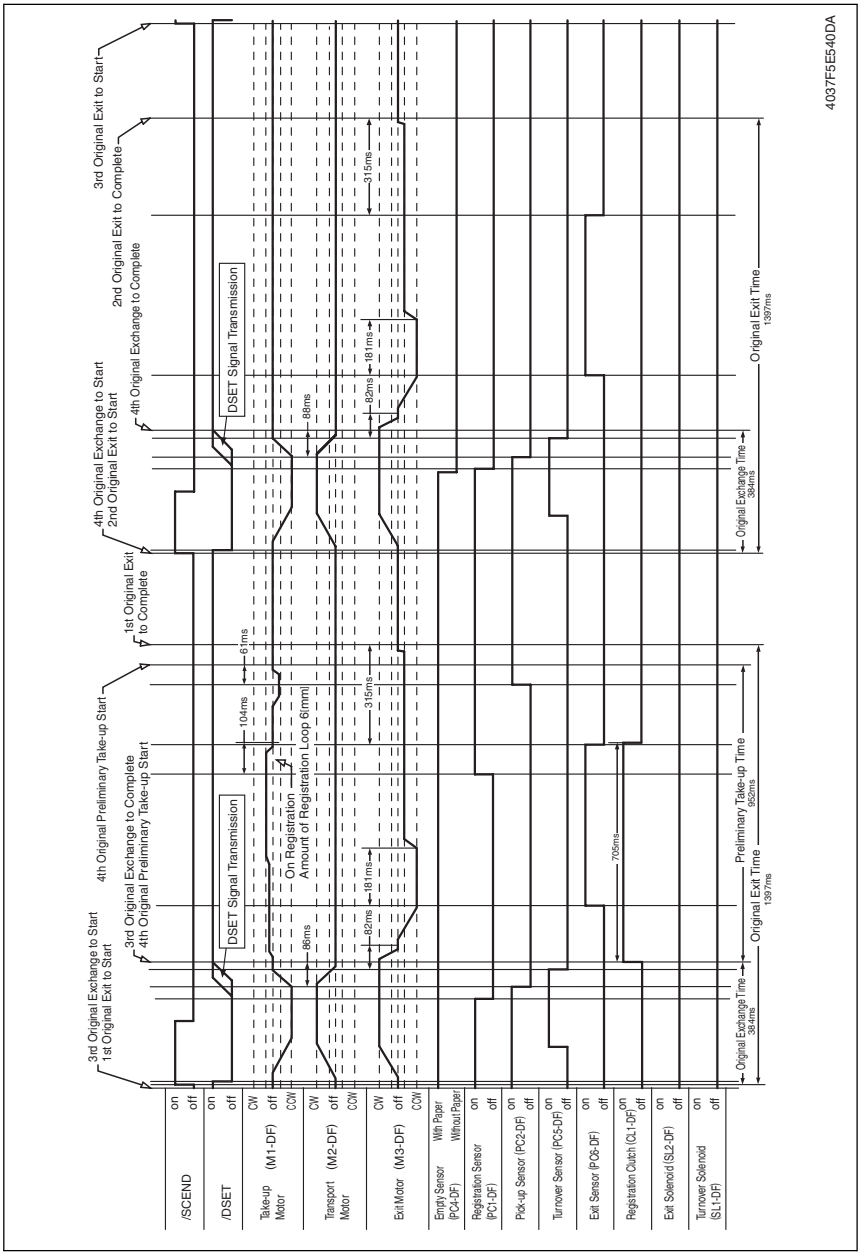


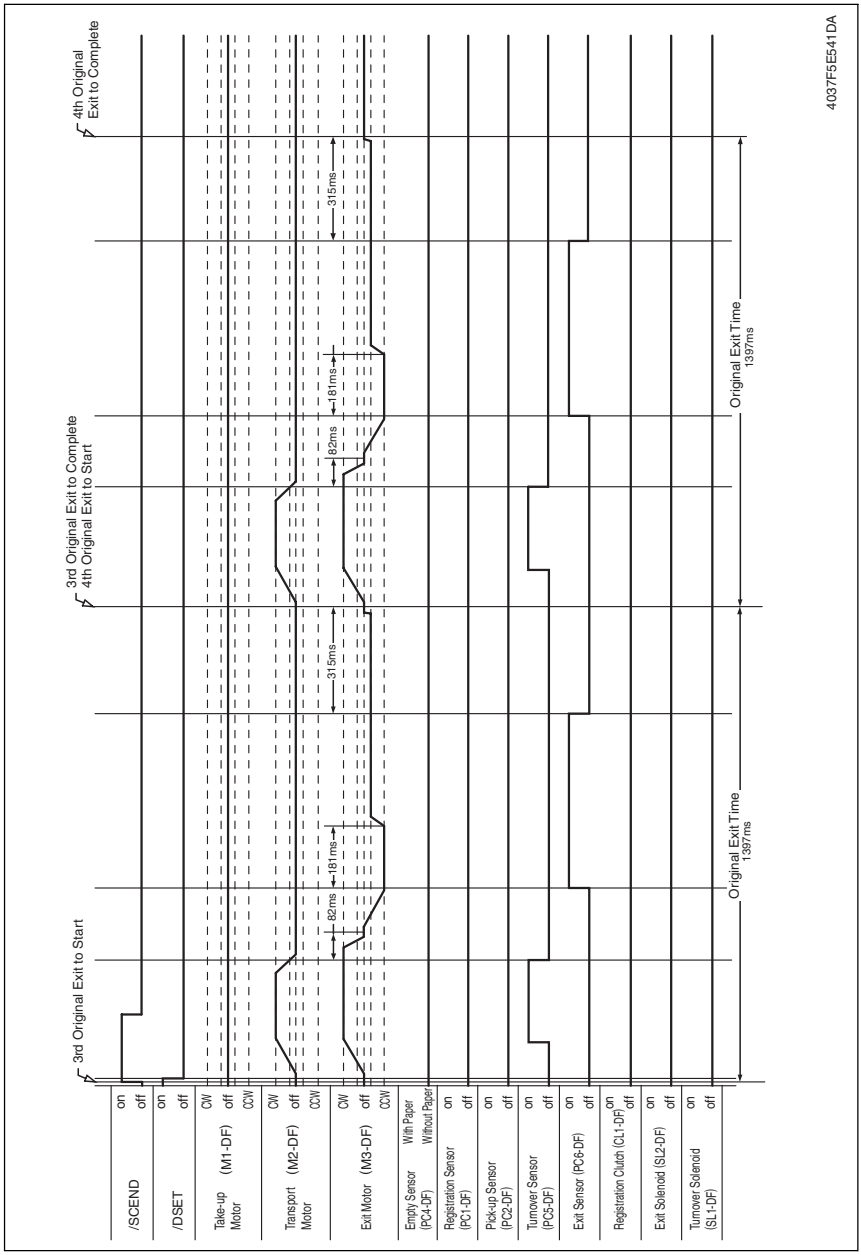
21.2 Automatic Document Feeder

21.2.1 1-sided mode

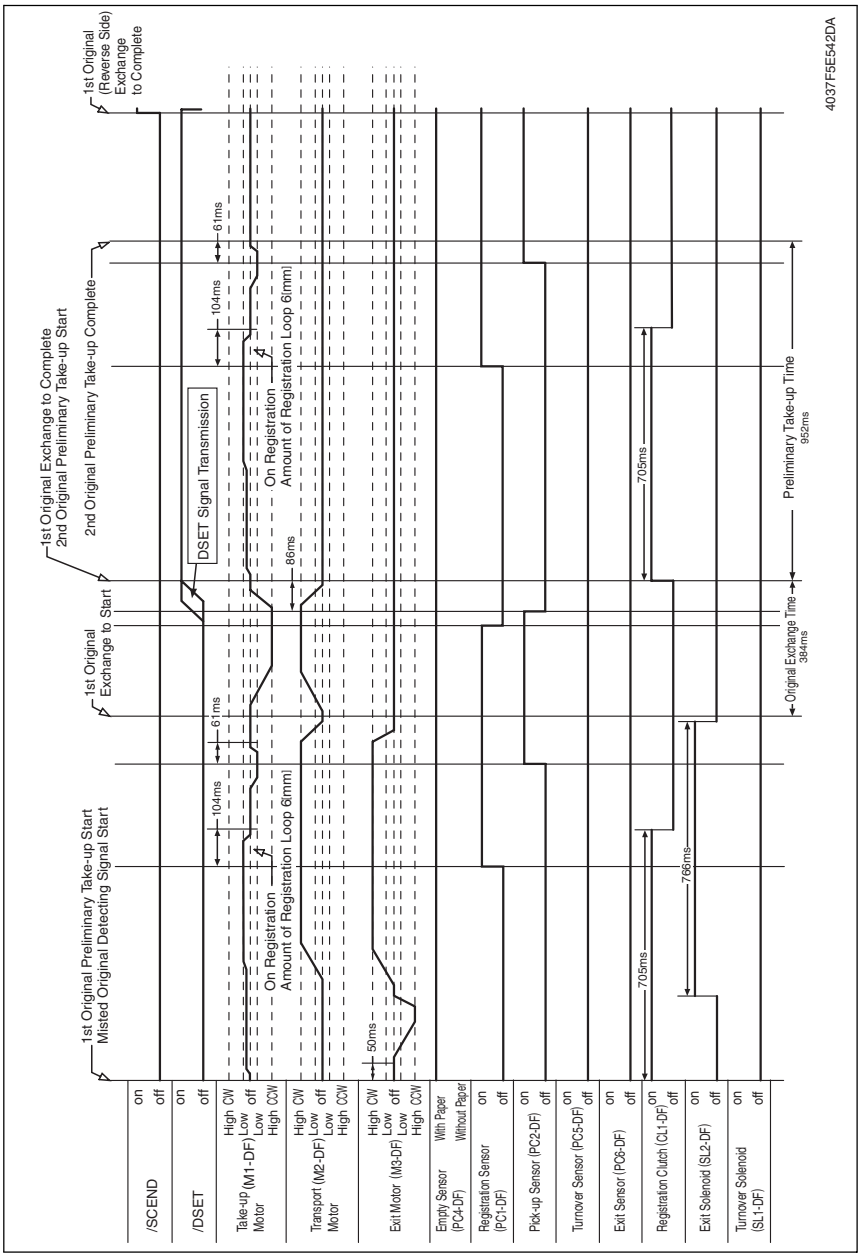


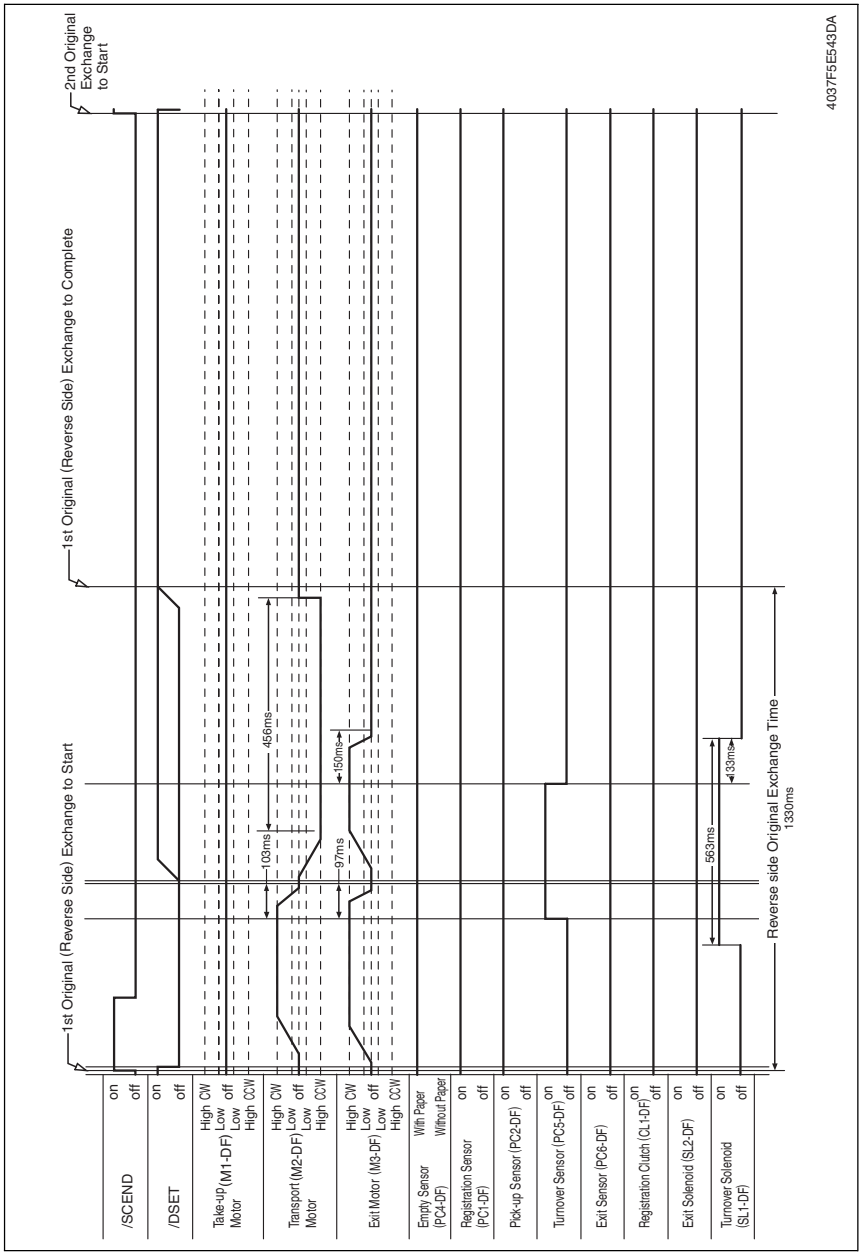

3rd Original Preliminary Take-up Complete
1st Original Exchange to Complete
3rd Original Preliminary Take-up Start
2nd Original Exchange to Start
3rd Original Exchange to Start
DSET Signal Transmission
104ms
61ms
86ms
On Registration
Amount of Registration Loop 6(mm)
705ms
Preliminary Take-up Time
952ms
Original Exchange Time
384ms
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
4037F5E539DA

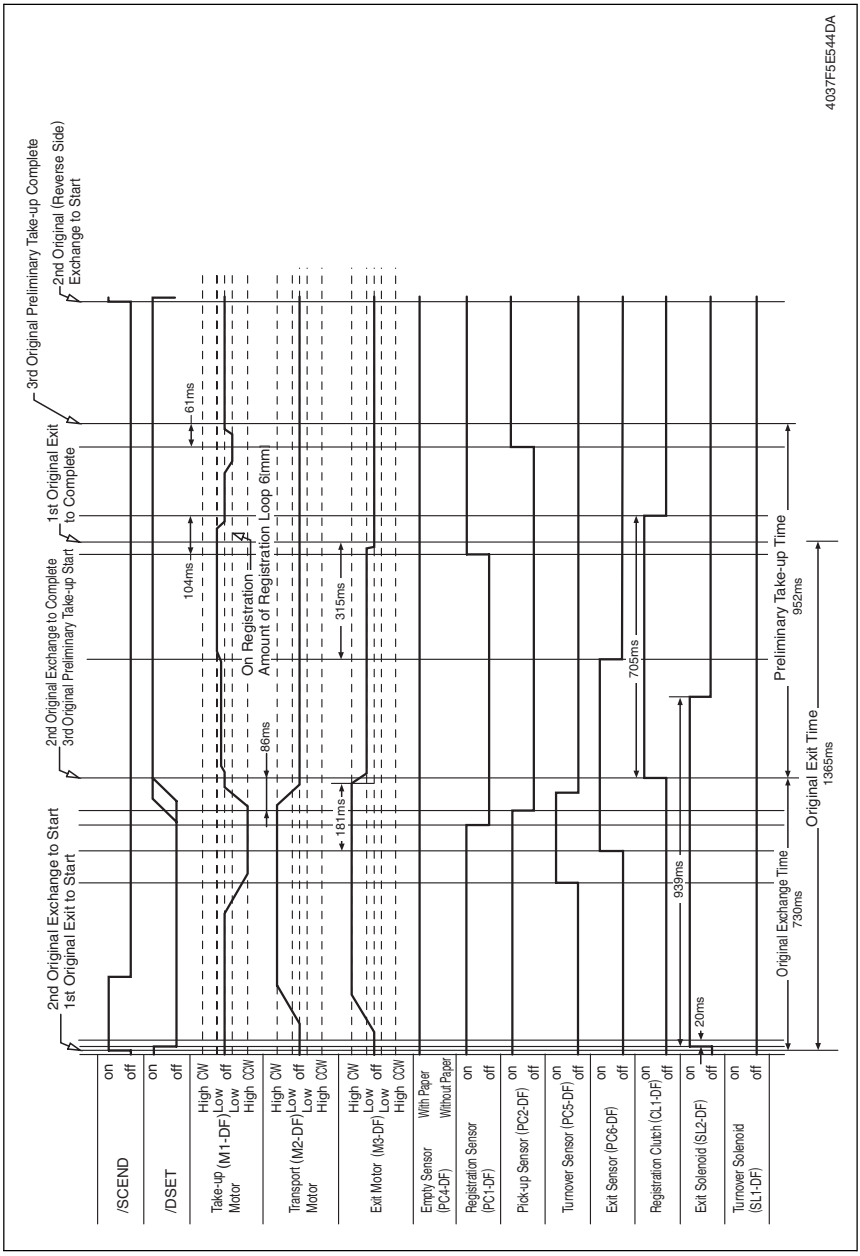

4037F5E540DA
3rd Original Exchange to Start
1st Original Exit to Start
4th Original Preliminary Take-up Start
3rd Original Exchange to Complete
4th Original Preliminary Take-up Start
1st Original Exit to Complete
4th Original Exchange to Start
2nd Original Exit to Start
2nd Original Exit to Complete
4th Original Exchange to Start
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
DSET Signal Transmission
104ms
61ms
On Registration
Amount of Registration Loop 6(mm)
88ms
181ms
82ms
315ms
705ms
Original Exchange Time
384ms
Original Exit Time
1397ms
Preliminary Take-up Time
952ms

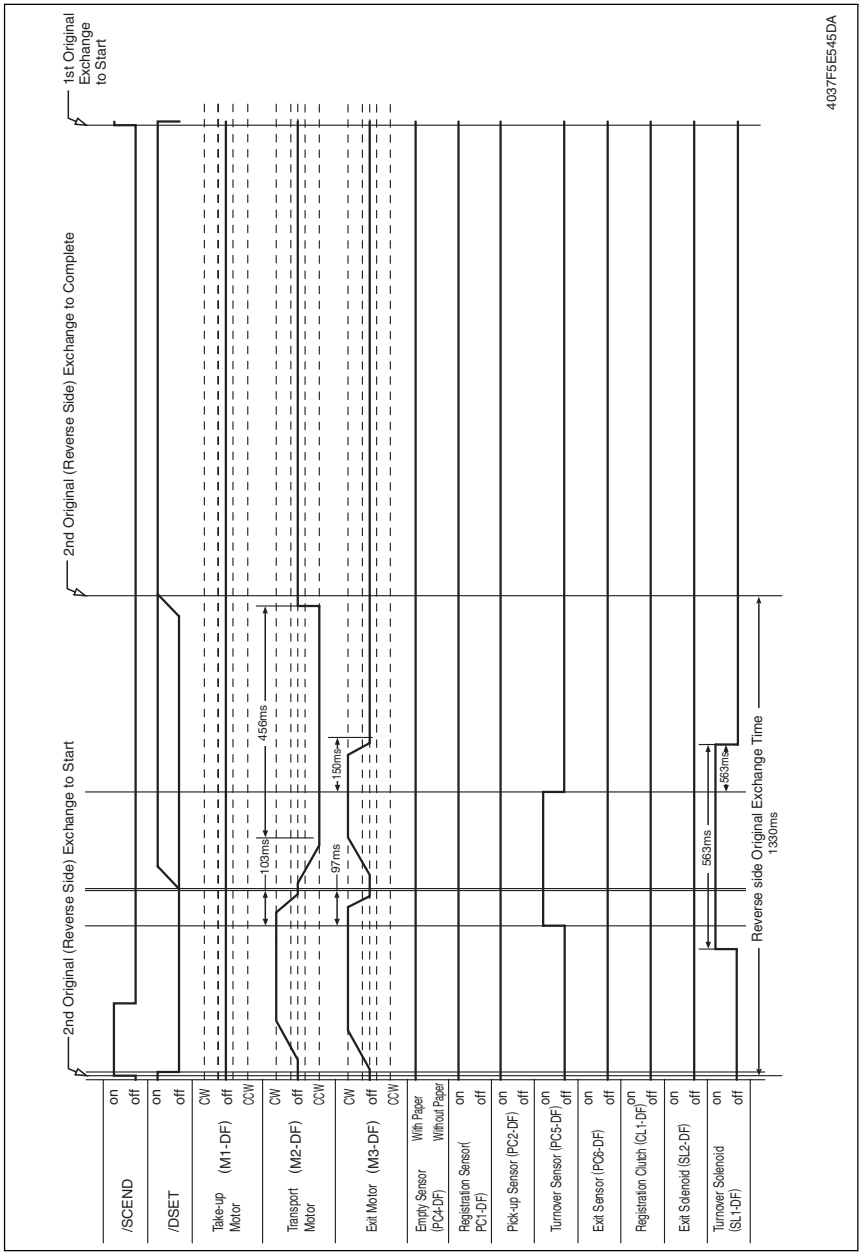

3rd Original Exit to Start
3rd Original Exit to Complete
4th Original Exit to Start
4th Original Exit to Complete
/SCEND
on
off
/DSET
on
off
Take-up Motor (M1-DF)
CW
off
CCW
Transport Motor (M2-DF)
CW
off
CCW
Exit Motor (M3-DF)
CW
off
CCW
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
on
off
Pick-up Sensor (PC2-DF)
on
off
Turnover Sensor (PC3-DF)
on
off
Exit Sensor (PC6-DF)
on
off
Registration Clutch (CL1-DF)
on
off
Exit Solenoid (SL2-DF)
on
off
Turnover Solenoid (SL1-DF)
on
off
82ms
181ms
315ms
82ms
181ms
315ms
Original Exit Time
1397ms
Original Exit Time
1397ms
4037F5E541DA

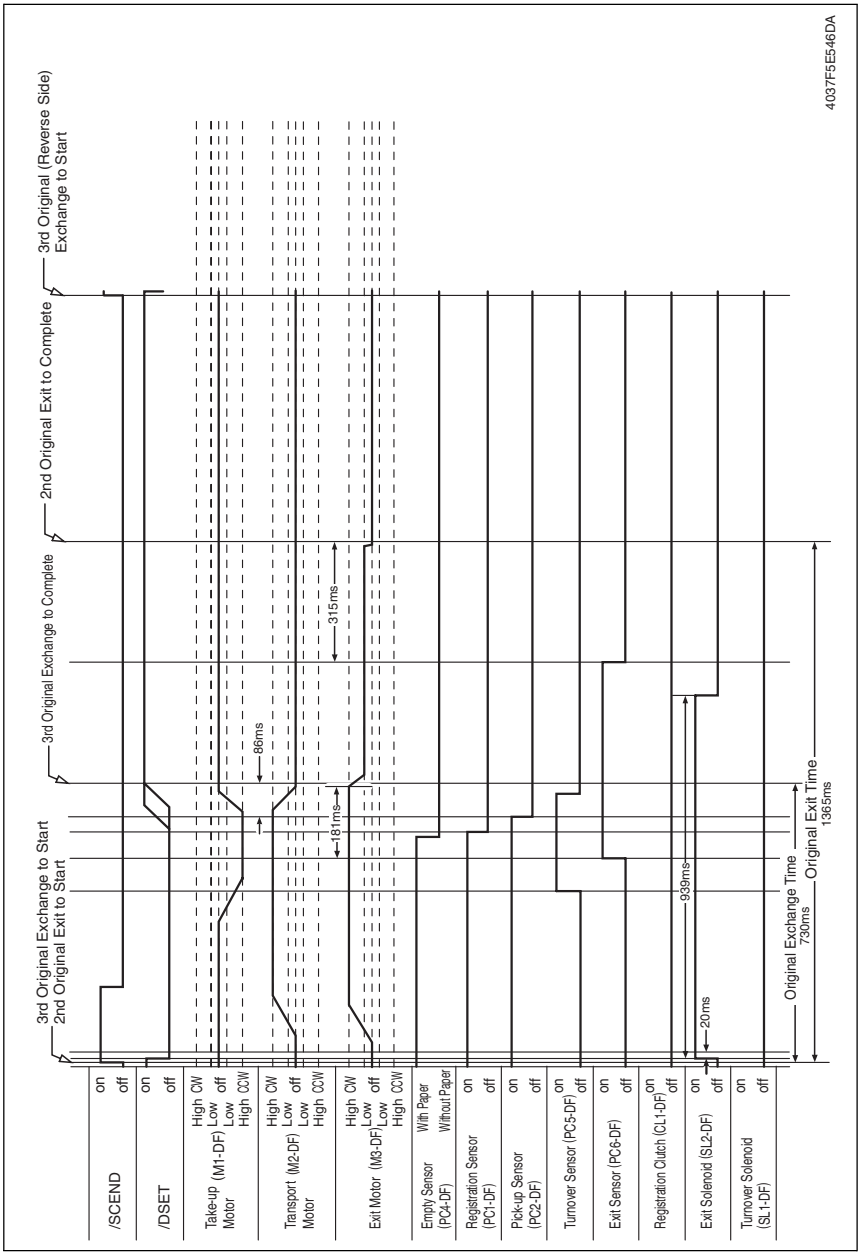
21.2.2 Mixed original detection mode

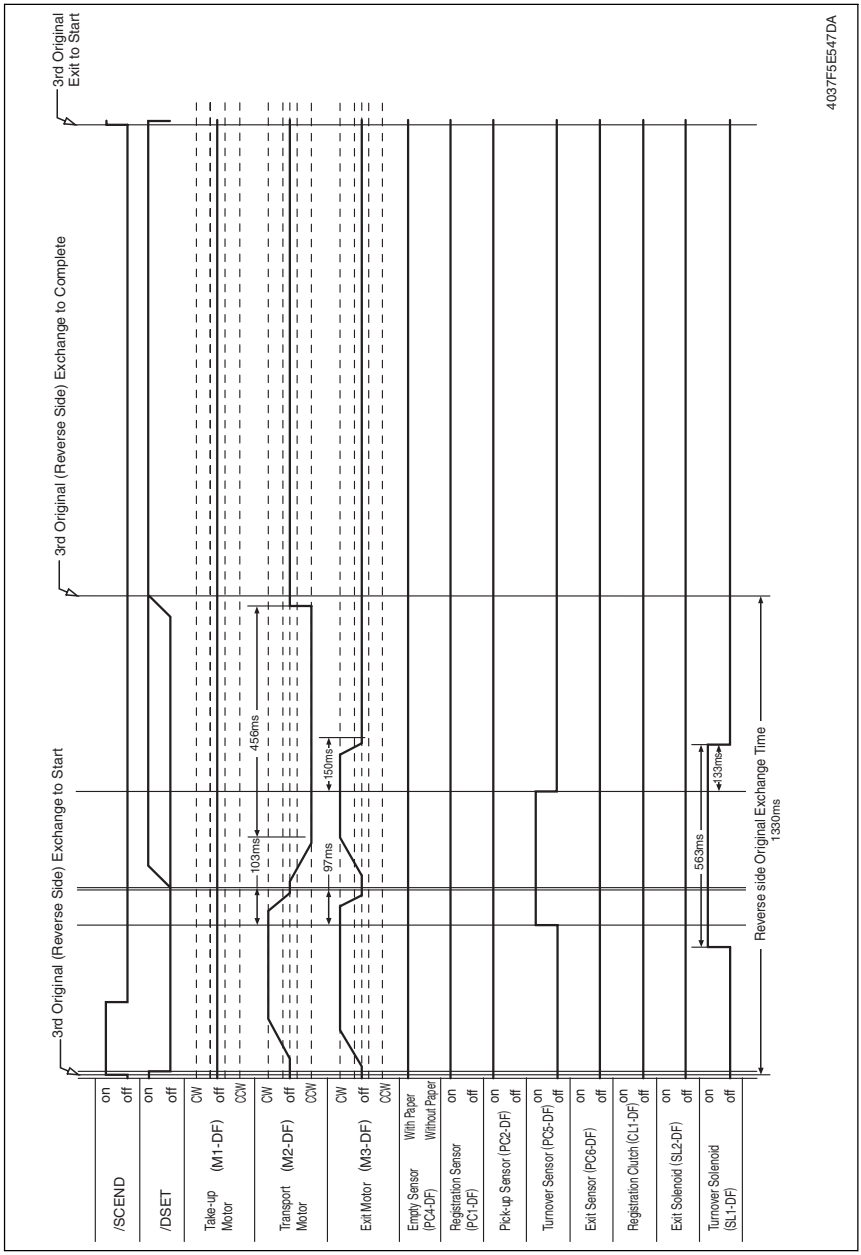


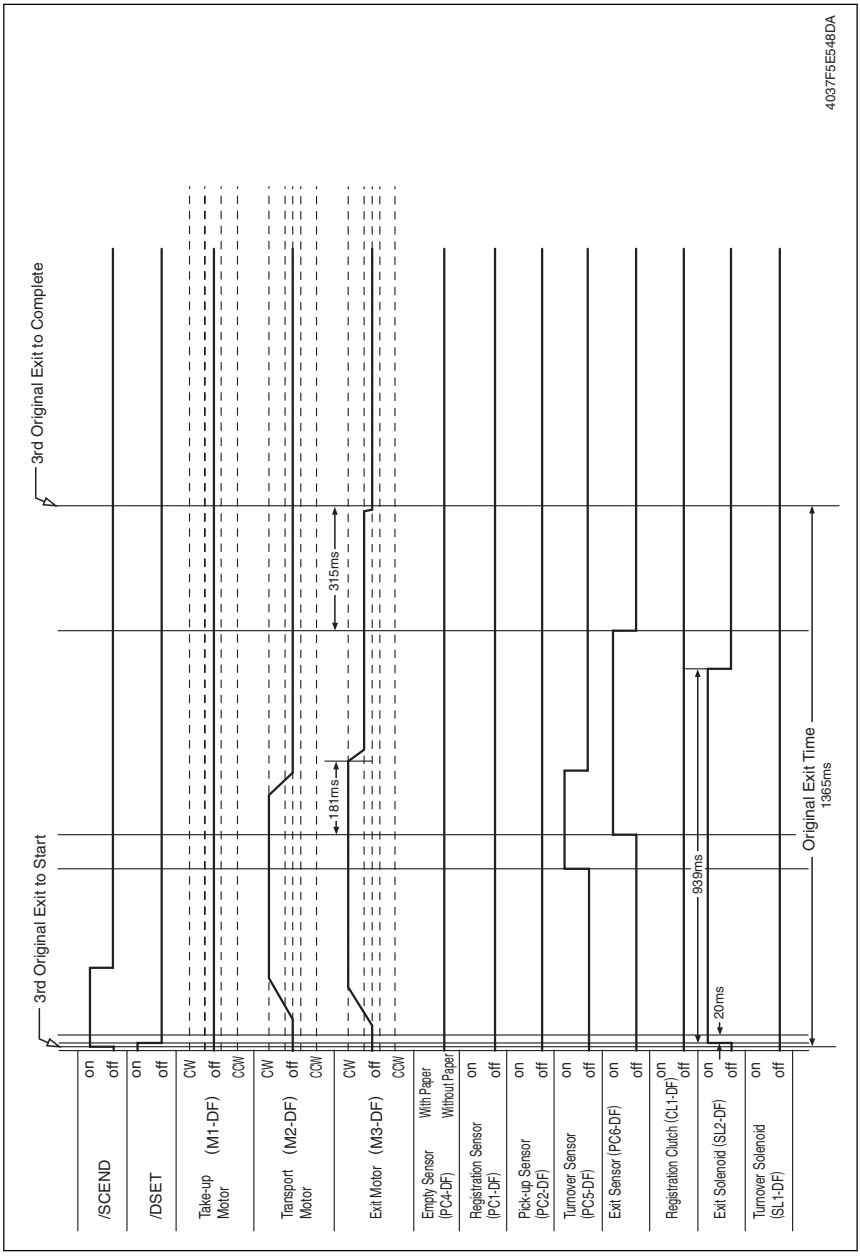

1st Original (Reverse Side) Exchange to Start
1st Original (Reverse Side) Exchange to Complete
2nd Original Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport (M2-DF) Motor
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High CW
Low
Low CCW
With Paper
Without Paper
103ms
456ms
97ms
150ms
563ms
133ms
Reverse side Original Exchange Time
1330ms
4037F5E543DA


2nd Original Exchange to Start
1st Original Exit to Start
2nd Original Exchange to Complete
3rd Original Preliminary Take-up Start
1st Original Exit to Complete
2nd Original (Reverse Side) Exchange to Start
3rd Original Preliminary Take-up Complete
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High
Low
CW
CCW
With Paper
Without Paper
104ms
61ms
86ms
On Registration
Amount of Registration Loop 6(mm)
181ms
315ms
705ms
939ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
Preliminary Take-up Time
952ms
4037F5E544DA


2nd Original (Reverse Side) Exchange to Start
2nd Original (Reverse Side) Exchange to Complete
1st Original Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor(PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
109ms
456ms
150ms
97ms
563ms
563ms
Reverse side Original Exchange Time
1330ms
4037F5E545DA


3rd Original Exchange to Start
2nd Original Exit to Start
3rd Original Exchange to Complete
2nd Original Exit to Complete
3rd Original (Reverse Side) Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High
Low
CW
CCW
With Paper
Without Paper
86ms
181ms
315ms
939ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
4037F5E546DA


3rd Original (Reverse Side) Exchange to Start
3rd Original (Reverse Side) Exchange to Complete
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
103ms
458ms
97ms
150ms
563ms
133ms
Reverse side Original Exchange Time
1330ms
4037F5E547DA


3rd Original Exit to Start
3rd Original Exit to Complete
/SCEND
on
off
/DSET
on
off
Take-up Motor (M1-DF)
CW
off
CCW
Transport Motor (M2-DF)
CW
off
CCW
Exit Motor (M3-DF)
CW
off
CCW
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
on
off
Pick-up Sensor (PC2-DF)
on
off
Turnover Sensor (PC5-DF)
on
off
Exit Sensor (PC6-DF)
on
off
Registration Clutch (CL1-DF)
on
off
Exit Solenoid (SL2-DF)
on
off
Turnover Solenoid (SL1-DF)
on
off
181ms
315ms
939ms
20ms
Original Exit Time
1365ms
4037F5E548DA

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C450

Standard Controller

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Controller specifications 1
   - 1.1 Type 1
   - 1.2 Supporting client specifications 2

Maintenance

2. Checking the controller firmware version 3
3. Firmware upgrade 3
   - 3.1 Preparations for Firmware rewriting 3
     - 3.1.1 Service environment 3
     - 3.1.2 Application to be used 3
     - 3.1.3 Installing the Cygwin 3
     - 3.1.4 Writing into the Compact flash 7
   - 3.2 Firmware rewriting 10
     - 3.2.1 Updating method 10
     - 3.2.2 Action When Data Transfer Fails 11

Adjustment/Setting

4. Checking the Image Controller Setting 13

Troubleshooting

5. Checking the system configuration 15
6. Status codes 15
7. Troubleshooting procedures 15
   - 7.1 Unable to print over the network. 15
   - 7.2 Unable to transmit data through Scan to FTP. 17
   - 7.3 Unable to transmit data through Scan to E-Mail/Internet FAX. 18
   - 7.4 E-mail does not reach the destination when transmission through Scan to E-Mail/ Scan to Internet FAX is completed. 19

Blank Page

General

1. Controller specifications

1.1 Type

Type	Built-in type controller	
Print Speed	B&W :45 ppm (A4 paper, and simplex or duplex) :44 ppm (8-1/2 x 11 paper, and simplex or duplex) Color :35 ppm (A4 or 8-1/2 x 11 paper, and simplex or duplex)	
Printer Language	PCL5e/c Emulation PCL6 (XL 2.1) Emulation PostScript 3 Emulation (3011)	
CPU	PPC750 FX 600 MHz	
Program ROM	64 MB	
RAM	512 MB	
Hard Disk	40 GB	
Host Interface	Standard: Ethernet (10Base-T or 100Base-TX) Optional: USB 1.1, USB 2.0, or IEEE 1284 *1	
Network Protocol	IPX/SPX (Auto, Ethernet II, 802.2, 802.3, 802.3 SNAP) NetBEUI, TCP/IP SMTP. POP3, FTP, SNMP, HTTP 1.1 DHCP, ARP/ICMP, BOOTP SLP, Apple Talk	
Network Print Service	Pserver (NDS) ... NetWare 4.x, 5.x, 6.x Pserver (Bindery) ... NetWare 4.x NDPS ... NetWare 5.x, 6.x SMB RAW Port Printing (Port 9100: To be changed from Page Scope Light) IPP 1.1, LPD	
Network Scan Functions	Scan to FTP with URL Notification Scan to PC with URL Notification Scan to E-Mail Scan to HDD with URL Notification TWAIN	
Software Accessories (1) Drive CD	PCL5c Printer Driver, TWAIN Driver, Front Manager, BOX Utility OS: Windows98/98SE/Me, NT4.0, 2000, XP, Server2003	
Software Accessories (2)	Page Scope Web Connection has been built into the controller firmware.	
Compatible Paper Size	Max. standard paper size A3 Wide	
Resolution	600 × 600 dpi	
Power Requirements	Shared with main unit	
Operating Environmental Requirements	10 - 30 °C 15 - 85 %	
Fonts	PCL	Latin 80 Fonts
	PS	Latin 136 Fonts
Options	Not available	

*1: The optional Local Interface Kit (EK-702) is required.

1.2 Supporting client specifications

PC	IBM PC and its compatible		
RAM	64 MB or more (128MB or more for XP)		
OS	Windows 98/98SE, Windows Me, Windows 2000, Windows XP, Windows NT 4.0, Windows Server 2003		
Interface	With a network connection	Connection method	Ethernet 10Base-T/100Base-TX
		Protocols	TCP/IP, NetBEUI, IPX/SPX (NetWare 4.x, 5.x, 6.x)
	With a parallel connection	IEEE1284 (Compatible/Nibble/ECP)*1	
Browser	The following browser is required to use Page Scope Web Connection: Netscape Communicator version 4.5 or later (Java-compliant) Internet Explorer version 5.5 or later (Java-compliant)		

*1:The optional Local Interface Kit (EK-702) is required.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Checking the controller firmware version

- The version of the controller firmware can be checked on the control panel of the machine.

1. Call the Service Mode to the screen.
2. Touch “Firmware Version.”
3. Check the firmware versions.

3. Firmware upgrade

3.1 Preparations for Firmware rewriting

3.1.1 Service environment

- OS: Windows2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 128MB or more)

3.1.2 Application to be used

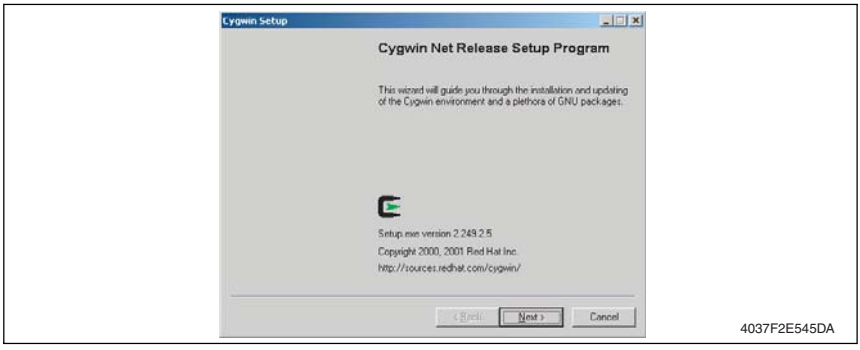
- Cygwin (Free software)

3.1.3 Installing the Cygwin

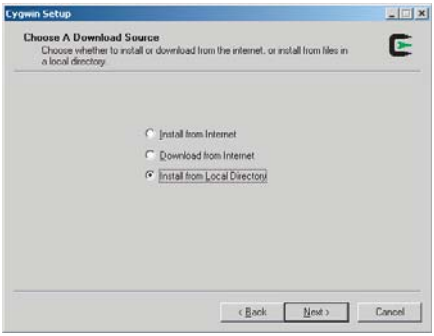
- The software for writing the Firmware into Compact flash is installed into the PC.

1. Double click the [setup.exe] on CD-ROM in which Cygwin is stored.

2. Click [Next (N)].


Cygwin Setup
Cygwin Net Release Setup Program
This wizard will guide you through the installation and updating of the Cygwin environment and a plethora of GNU packages.
Setup.exe version 2.249.2.5
Copyright 2000, 2001 Red Hat Inc.
http://sources.redhat.com/cygwin/
< Back
Next >
Cancel
4037F2E545DA

3. Select “Install from Local Directory”, and click [Next (N)].


Cygwin Setup
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory.
Install from Internet
Download from Internet
Install from Local Directory
< Back
Next >
Cancel

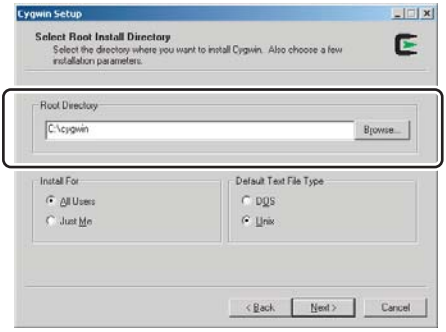
4037F2E546DA

4. Specify the folder for installation.
Check to make sure that “Root Directory” is in default setting, [C:\cygwin].

NOTE

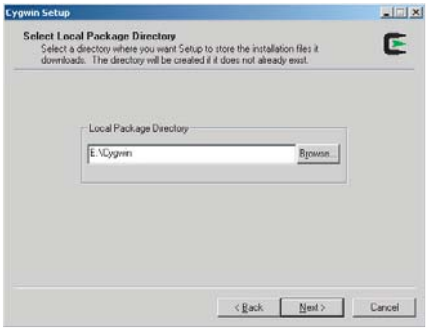
- **Make sure to check that “Root Directory” is in default setting, [C:\cygwin].**
- **Do not change the setting value except “Root Directory.”**

5. Click [Next (N)].



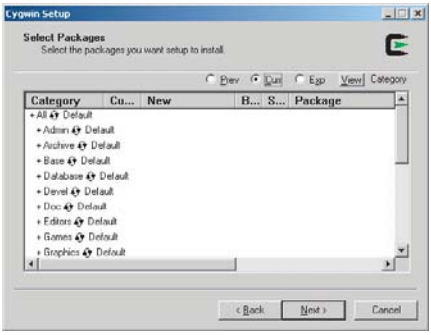
4037F2E547DA

6. Specify the place of the data to be installed.
   For installing from CD-ROM, select the [cygwin] folder in CD-ROM drive.
   (Described below is the sample procedure when CD-ROM drive is E-drive.)
7. Click [Next (N)].


Cygwin Setup
Select Local Package Directory
Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.
Local Package Directory
E:\Cygwin
Browse...
< Back
Next >
Cancel

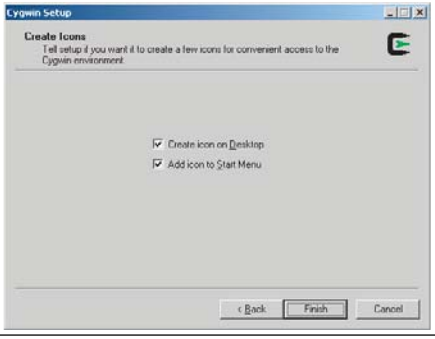
4037F2E548DA

8. Click [Next (N)].



4037F2E549DA

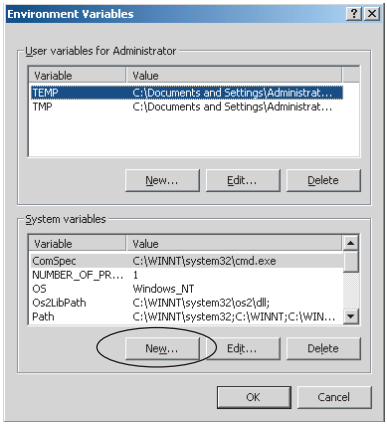
9. Click [Complete] to start installing.


Cygwin Setup
Create Icons
Tell setup if you want it to create a few icons for convenient access to the Cygwin environment
Create icon on Desktop
Add icon to Start Menu
< Back
Finish
Cancel

4037F2E550DA

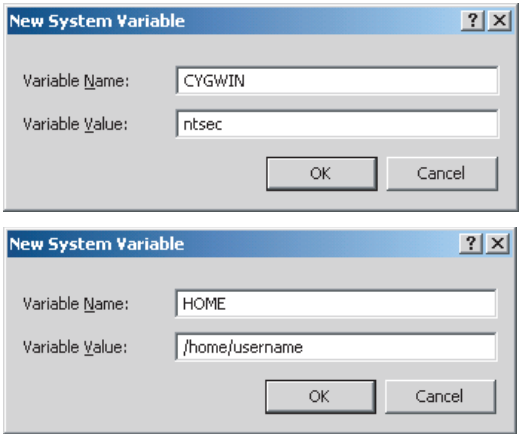
10. After installing, open the Property of “My Computer”, and click the “Environmental Variable” of “Advanced” tab.

11. Click the “New” in System Variable Setting.



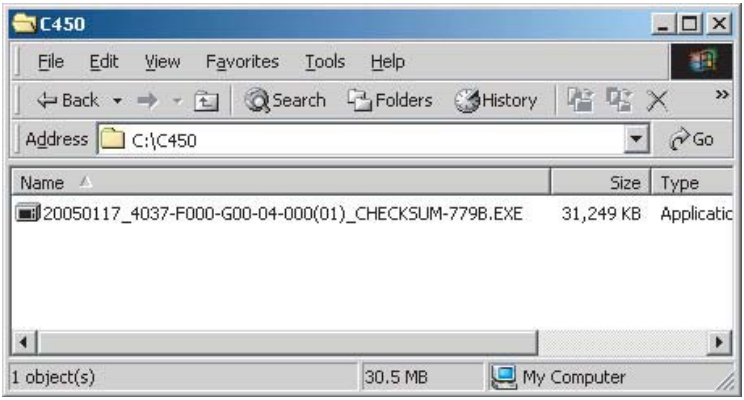
12. Set the following two values as the Windows Environmental Variable.

Variable name	Variable value
CYGWIN	ntsec
HOME	/home/username



3.1.4 Writing into the Compact flash

1. Put the data of Firmware in the optional directory. (C:\C450 in the below figure)

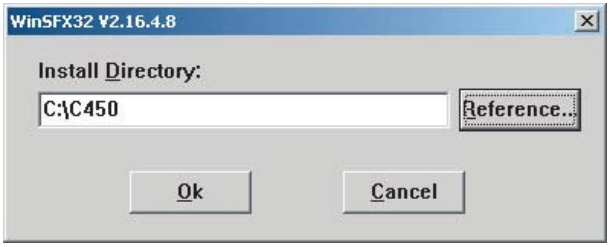


4037F2E541DA

NOTE

- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe."**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

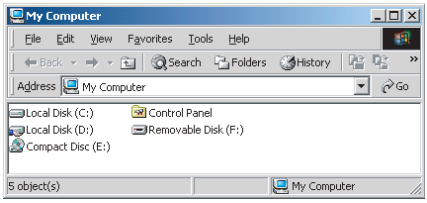


4037F2E542DA

NOTE

- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows. (F-drive in the following figure)

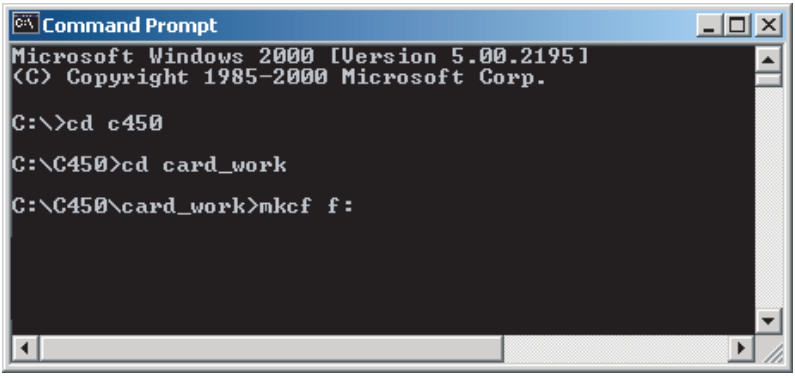


4036fs2623e0

4. Click “Start” → “Program” → “Accessories” → “Command Prompt” to open the Command Prompt.

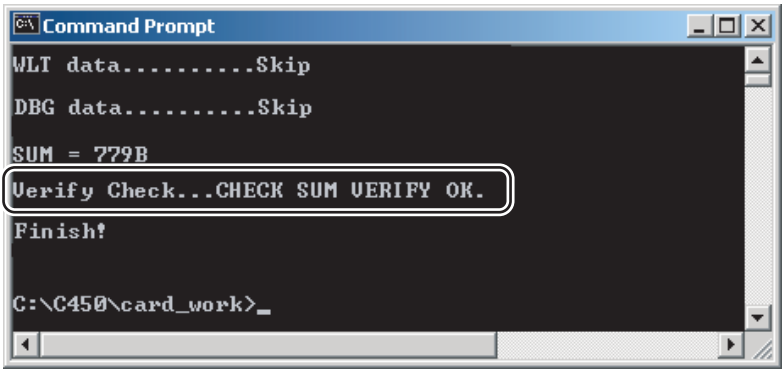
5. Use the Command prompt to move into the uncompressed directory.

6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mksf.bat.” (Input the C: \C450\card_work>mkcf f (Drive number): in the below figure, and push the “Enter”.)



4037F2E543DA

7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



4037F2E544DA

9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

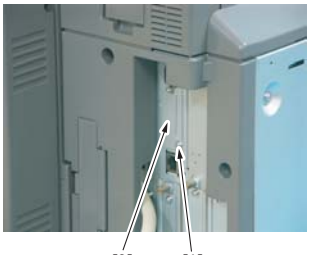
3.2 Firmware rewriting

- The F/W is updated using the Compact flash.

3.2.1 Updating method

NOTE

- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**



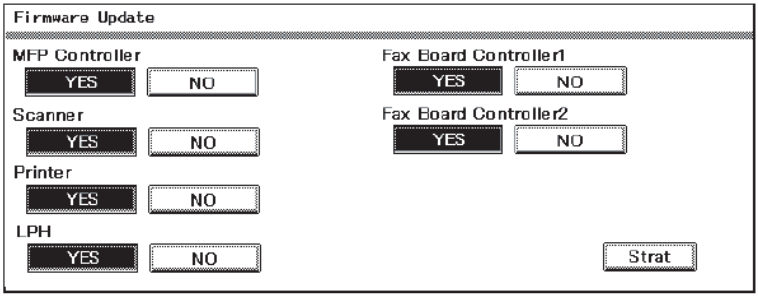
4037F2C016DA

1. With the main power switch in the OFF position, unplug the power cord from the power outlet.
2. Remove one screw [1] and the metal Blanking Plate [2].

4037F2C017DA

3. Insert the Compact Flash card into the slot.

4. Plug the power cord into the power outlet and turn ON the main power switch.
5. Up to six types of F/W will be displayed on the control panel.
6. Select the particular type of F/W to be updated.



4037F2J517DA

7. Press the Start key. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly (“Downloading Completed”). Check also the Check Sum value (“Check Sum XXXX”) shown on the Touch Panel. (The Start key blinks green.)
9. Turn OFF the main power switch.
10. Unplug the power cord from the power outlet.
11. Remove the Compact Flash card from the slot.
12. Plug the power cord and turn ON the main power switch.
13. Call the Service Mode to the screen.
14. Select “Firmware Version”.
15. Make sure if the version of Firmware is updated.

3.2.2 Action When Data Transfer Fails

- If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the memory card for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MFP Controller	MFP Control Board (PWB-MFPC)

Blank Page

Adjustment/Setting

4. Checking the Image Controller Setting

- Whenever the controller is mounted, it is necessary to select “Controller 0” in “Image Controller Setting.”

1. Call the Service Mode to the screen.
2. Touch “System 2”.
3. Check that “Controller 0” is selected in “Image Controller Setting.”

NOTE

- **If the setting is changed, be sure to turn OFF and ON the Main Power Switch. The change of the setting becomes valid when the Main Power Switch is turned OFF and ON after the appropriate change has been made on the panel.**

A. Note on returning the setting from “Controller 1” to “Controller 0.”

- Selecting “Controller 0” will initialize the following settings made while “Controller 1” was selected. Reset the following items as necessary when using the Internal Standard Controller.

<Control Panel on the machine>

- Setting items included in [Network Setting] available from [Administrator Setting]. (Except [Status Notification Setting] and [Prefix/Suffix Setting] available from the following setting. [Administrator Setting] - [Network Setting] - [Detail Setting].)
- [Administrator Setting]-[User Authentication/Account Track]-[General Settings]-[External Server]
- [Administrator Setting]-[System Connection]-[IS OpenAPI Setting]

<PageScope Web Connection>

- SSL/TLS

Blank Page

Troubleshooting

5. Checking the system configuration

- When a malfunction occurs, let the printer print a Configuration Page to check for system configuration.

1. Press the Utility/Counter key.
2. Touch “User Setting” → “Printer Setting” → “Print Reports.”
3. Touch “Configuration Page” and press the Start button.

6. Status codes

Code	Description	Action
C-A051	Standard controller configuration failure	Change the MFP Control Board (PWB-MFPC).
C-A052	Faulty controller hardware	Change the MFP Control Board (PWB-MFPC).
C-A053	Controller start failure	Change the MFP Control Board (PWB-MFPC) if the problem occurs again when the Main Power Switch of the machine is turned OFF and ON.

☞ For details of how to replace the MFP Control Board, see the C450 Main Unit Service Manual

7. Troubleshooting procedures

7.1 Unable to print over the network.

	Check		Possible Cause	Action	Remark
1	Is the print job displayed on the machine control panel?	Yes	An error on machine side (paper running out, toner running out, etc.)	Correct the error.	See “User’s Guide [Copy Operations]” of the machine.
			Waiting its turn	Check the machine control panel for jobs in print queue. Priority may be changed as necessary.	
			The job is locked.	Enter the password to unlock the job.	See “User’s Guide [Print Operations].”
			The correct division ID has not been entered.	Enter the correct division ID in the printer driver and try re-transmitting the job again. (access code)	
		No	Data is yet to be received.	Go to item 2.	

	Check		Possible Cause	Action	Remark
2	Is the response of Ping sent from the PC to the machine?	Yes	The print destination port setting is wrong.	Set the correct port.	See “User’s Guide [Print Operations].”
			PC operates erratically temporarily.	Restart the PC.	
			Printer driver incorrectly installed	Uninstall the printer driver through the proper steps and then reinstall it properly.	See “User’s Guide [Print Operations].”
		No	Controller board (MFP Control Board) operates erratically temporarily.	Restart the controller board.	Turn OFF and ON the machine main power switch.
			Network cable is disconnected or a relay device is faulty.	Reconnect the cable and restart or change the faulty relay device.	Check with the controller network LED.
			IP address and/or subnet mask incorrectly set.	Set the correct IP address and subnet mask.	See “TCP/IP Setting” in Installation Guide.

7.2 Unable to transmit data through Scan to FTP.

	Check	Possible Cause	Action	Remark
1	The message “Failed to connect to the destination” appears.	The FTP server is not in service.	Check with the network administrator.	
		IP address of the FTP server is wrong.	Check with the network administrator and enter the correct IP address.	See “User’s Guide [Network Scanner Operations].”
		Proxy setting is wrong.	Check with the network administrator and make the correct proxy setting.	
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A directory not existing in the FTP server is specified.	Check with the network administrator and enter the correct directory.	
		Failed to log on to the FTP server because of the wrong user account.	Check with the network administrator and enter the correct user name and password.	
		A timeout condition occurs.	Set a longer value for “FTP Connection Timeout.” The timeout value depends on the network’s traffic conditions and load on the FTP server.	
2	The message “Server Connect error” appears.	The network is disconnected during file transfer.	Send Ping from PC to the controller and FTP server to check to see if both parties are connected to the network or not.	
		The FTP server hard disk becomes full during file transfer.	Check with the network administrator.	
		The FTP server stops during file transfer.	Check with the network administrator.※	

7.3 Unable to transmit data through Scan to E-Mail/Internet FAX.

	Check	Possible Cause	Action	Remark
1	The message "Server Connect error" appears.	The SMTP server is not in service.	Check with the network administrator.	
		IP address of the SMTP server is wrong.	Check with the network administrator and enter the correct IP address.	See "User's Guide [Network Scanner Operations]."
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A timeout condition occurs.	Set a longer value for "SMTP Connection Timeout." The timeout value depends on the network's traffic conditions and load on the FTP server.	
		The network is disconnected during file transfer.	Send Ping from PC to the controller and SMTP server to check to see if both parties are connected to the network or not.	
2	The message "E-mail Size Over" appears.	The size of the scan data exceeds the upper limit value set for Maximum E-Mail Size.	Decrease resolution to make small the data size or change the setting for Scanned File Separation and Binary Division as necessary so that the scan data does not exceed the Maximum E-Mail Size. ✻	See "User's Guide [Network Scanner Operations]."

7.4 E-mail does not reach the destination when transmission through Scan to E-Mail/Scan to Internet FAX is completed.

	Check		Possible Cause	Action	Remark
1	An error message is returned from the mail server.	Yes	The destination mail address is wrong.	Enter the correct mail address.	See “User’s Guide [Network Scanner Operations].”
		No	The receiving end is being unable to receive, or is not receiving, mail stored in the POP3 server.		

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

Automatic Document Feeder

2005.03
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specification 1
   - 1.1 Type 1
   - 1.2 Functions 1
   - 1.3 Paper type 1
   - 1.4 Paper feed prohibited originals 2
   - 1.5 Paper feed not guaranteed originals 2
   - 1.6 Mixed original feed chart 3
   - 1.7 Machine specifications 3
   - 1.8 Operating environment 4

Maintenance

2. Periodical check 5
   - 2.1 Maintenance procedure (Periodical check parts) 5
     - 2.1.1 Transport Belt 5
     - 2.1.2 Pick-up Roller / Paper Take-up Roller 6
     - 2.1.3 Separation Roller 7
     - 2.1.4 Pick-up Roller / Paper Take-up Roller / Separation Roller 8
     - 2.1.5 Registration Roller 8
     - 2.1.6 Exit Roller / Roll 9
     - 2.1.7 Turnover Roller 9
     - 2.1.8 Sensor Section 9
3. Other 11
   - 3.1 Disassembly/Adjustment prohibited items 11
   - 3.2 Disassembly/Assembly list (Other parts) 12
   - 3.3 Disassembly/Assembly procedure 12
     - 3.3.1 Front Cover/Rear Cover 12
     - 3.3.2 ADF 12

Adjustment/Setting

4. How to use the adjustment section 15
5. Service Mode 16
   - 5.1 Service Mode setting procedure 16
   - 5.2 ADF setting procedure 16
     - 5.2.1 Original Stop Position 16
     - 5.2.2 Registration Loop Adj 16

5.2.3 Auto Stop Position Adjustment 16
5.2.4 Paper Passage 17
5.2.5 Sensor Check 17
5.3 Sensor check list 18
5.3.1 Sensor check screen 18
5.3.2 Original Tray Width 19
5.3.3 Sensor Auto Adjust 19
6. Mechanical adjustment 20
6.1 Adjustment of the tray volume 20
6.2 Adjustment of the document edge guide reference position 21
6.3 Adjustment of the document skew 22
6.4 Adjustment of the document stop position 23
6.4.1 Auto adjust: Sub Scanning Direction 1-Side 23
6.4.2 Auto adjust: Sub Scanning Direction 2-Side 24
6.4.3 Auto adjust: Main Scanning Direction 25
6.4.4 Manual adjust: 1-Sided Set/ 2-Sided Set 26
6.4.5 Manual adjust: Main Scanning Direction 27
6.5 Adjustment of the registration loop value 28
6.6 Sensor auto adjustment 29

Troubleshooting

7. Jam Display 31
7.1 Misfeed display 31
7.1.1 Misfeed display resetting procedure 31
7.2 Sensor layout 31
7.3 Solution 32
7.3.1 Initial check items 32
7.3.2 Paper Take-Up section misfeed 32
7.3.3 Transport section misfeed 33
7.3.4 Paper Exit / Turnover section misfeed 34
7.3.5 Transport Tray section misfeed 35
8. Set error detection 36

General

1. Product specification

1.1 Type

Name	Duplexing Document Feeder	
Type	Paper Take-Up	Paper Take-Up from top of stack
	Transport	Endless Belt Transport Mode
	Turnover	Loop Turnover Mode
	Paper Exit	U-turn Turnover + Switchback U-Turn Turnover Mode (only in 1-Sided Mode)
Installation	Screw cramp to the main unit	
Document Alignment	Center	
Document Loading	Face up	

1.2 Functions

Modes	Standard Mode	1-Sided Mode / 2-Sided Mode
	Thick Paper Mode	1-Sided Mode
	Mixed Original Detection Mode	1-Sided Mode / 2-Sided Mode

1.3 Paper type

Type of Document	Standard Mode Plain Paper	1-Sided Mode 35 to 128 g/m^2 (9.25 to 34 lb)
		2-Sided Mode 50 to 110 g/m^2 (13.25 to 29.25 lb)
	Thick Paper Mode Plain Paper	1-Sided Mode 129 to 210 g/m^2 (34.25 to 55.75 lb)
	Mixed Original Detection Mode Plain Paper	1-Sided / 2-Sided Mode 50 to 110 g/m^2 (13.25 to 29.25 lb)
Detectable Document Size*1	Metric area: B6R to A3 Inch area : 5.5 × 8.5R / 5.5 × 8.5 to 11 × 17	
Capacity	Standard Mode / Mixed Original Detection Mode	Document Feed Table: 100 sheets (80 g/m^2, 21.25 lb)
		Original Exit Tray: 100 sheets (80 g/m^2, 21.25 lb)
	Thick Paper Mode	Document Feed Table: 38 sheets (210 g/m^2, 55.75 lb)
		Original Exit Tray: 38 sheets (210 g/m^2, 55.75 lb)

*1 For the Combined Original Detection Mode, Refer to the Mixed Original Detection Enabled Size Combination Table.

1.4 Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of Original	Possible Trouble
Sheets stapled or clipped together	Take-up failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Take-up failure, damaged sheet
Sheets of 211 g/m^2 (56.25 lb) or more	Take-up failure, Sheets misfed
Sheets of 110 g/m^2 (29.25 lb) or more in 2-Sided Mode	Take-up failure, Sheets misfed
Sheets folded, torn or wrinkled	Take-up failure, damaged sheet
Sheets severely curled	Sheets misfed due to being dog-eared or fed in askew
OHP Film (Transparency Film)	Take-up failure, Sheets misfed
Label Paper	Take-up failure, Sheets misfed
Offset Master Paper	Take-up failure, Sheets misfed
Sheets clipped or notched	Damaged sheet, Sheets misfed
Sheets patched	Patched part folded or torn sheet, Sheets misfed

1.5 Paper feed not guaranteed originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 - 15 mm)	Dog-eared, exit failure
Heat Sensitive Paper	Edge folded, exit failure, transport failure
Ink Jet Paper	Take-up failure, transport failure
Sheets with smooth surface (Coated Paper)	Take-up failure, transport failure
Intermediate paper	Take-up failure, transport failure
Paper immediately after paper exit from the main unit	Take-up failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets with 2 to 4 holes	Transport failure
Sheets two-folded or Z-folded (A3, B4 or 11 × 17)	Transport failure, image deformation
Sheets with rough surface (e.g., letterhead)	Take-up failure
Sheets penciled	Contamination
Sheets folded	Image deformation, multi-page feed, take-up failure
Sheets other than detectable-size sheets	Image deficit
Sheets of less than 35 g/m^2 (9.25 lb)	Take-up failure

1.6 Mixed original feed chart

For Metric

	Max. Original Size	297 mm		257 mm		210 mm		182 mm	148 mm
Mixed Original Size		A3	A4	B4	B5	A4R	A5	B5R	A5R
297 mm	A3	OK	OK	-	-	-	-	-	-
	A4	OK	OK	-	-	-	-	-	-
257 mm	B4	OK	OK	OK	OK	-	-	-	-
	B5	OK	OK	OK	OK	-	-	-	-
210 mm	A4R	OK*	OK*	OK	OK	OK	OK	-	-
	A5	NG	NG	OK	OK	OK	OK	-	-
182 mm	B5R	NG	NG	OK*	OK*	OK	OK	OK	-
148 mm	A5R	NG	NG	NG	NG	NG	NG	OK	OK

For Inch

	Max. Original Size	11		8.5			5.5
Mixed Original Size		11 × 17	8.5 × 11	8.5 × 14	8.5 × 11R	5.5 × 8.5	5.5 × 8.5R
11	11 × 17	OK	OK	-	-	-	-
	8.5 × 11	OK	OK	-	-	-	-
8.5	8.5 × 14	OK*	OK*	OK	OK	OK	-
	8.5 × 11R	OK*	OK*	OK	OK	OK	-
	5.5 × 8.5	NG	NG	OK	OK	OK	-
5.5	5.5 × 8.5R	NG	NG	NG	NG	NG	OK

OK	Mixed Original Feed available (Tilted with in 1.5 % or less)
NG	NO. Mixed Original Feed
-	Can not Set Original
*	Tilted with in 2 % or less is 80 %

1.7 Machine specifications

Power Requirements	DC24V (supplied from the main unit)
	DC5V (generated within the Automatic Document Feeder)
Max. Power Consumption	60 W or less
Dimensions	586 mm (W) × 519 mm (D) × 135 mm (H) 23 inch (W) × 20.5 inch (D) × 5.25 inch (H)
Weight	14.2 kg (31.25 lb)

1.8 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

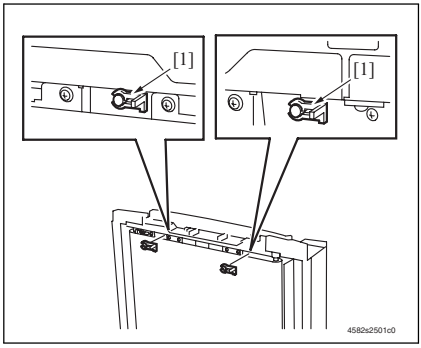
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

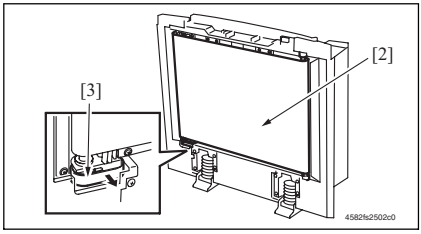
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

2.1.1 Transport Belt

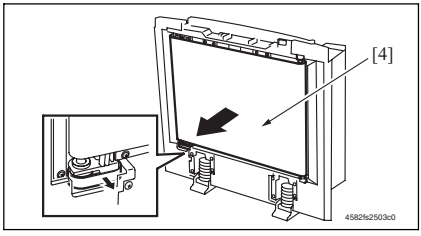


A. Replacing procedure

1. Remove two C-clips [1].



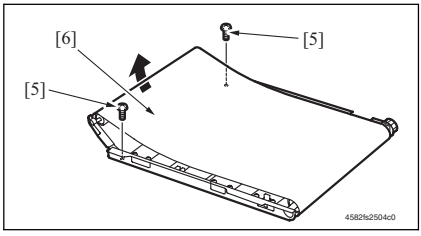
2. Remove the Transport Belt Roller Assy [2] from the belt [3] connected.



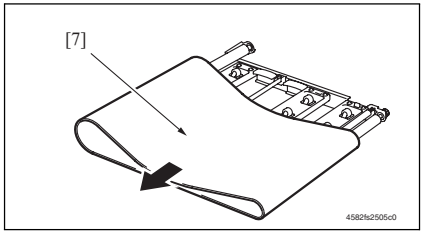
3. Pull out and remove the Transport Belt Roller Assy [4].

NOTE

- **In reassembling, ensure that the Transport Belt Roller Assy is set exactly to the connection belt.**

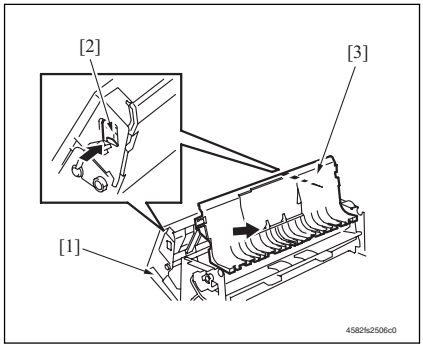


4. Remove two screws [5], and pull up the Roller Section [6].



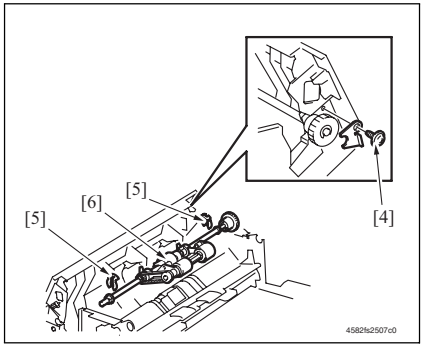
5. Remove the Transport Belt [7].
6. To reinstall, reverse the order of removal.

2.1.2 Pick-up Roller / Paper Take-up Roller

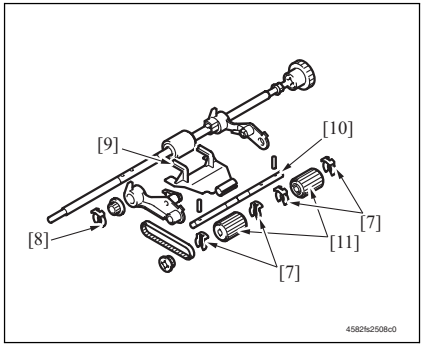


A. Replacing procedure

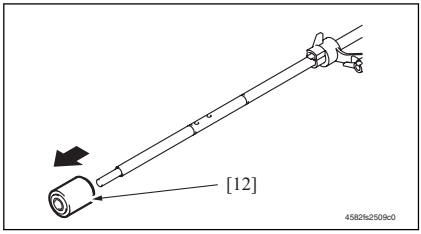
1. Open the Paper Take-up Section Cover [1], press inward and unlock the locking claws [2] at both ends of the Paper Take-up Section Guide (the Inner Cover), and remove the Paper Take-up Section Guide [3].



2. Remove the screw [4] (on the rear side) of the Pick-up/Paper Take-up Roller Assy shaft positioning plate and two C-clips [5] (at both ends) of the Pick-up/Paper Take-up Roller Assy shaft, and remove the Pick-up/ Paper Take-up Roller Assy [6].



3. Remove four C-clips [7] of the Pick-up Roller and the gear-fixing C-clip [8] (black) of the Pick-up/Paper Take-up Roller connected Belt, and remove the Pick-up/Paper Take-up Roller connecting section [9] from the shaft [10].
4. Remove the Pick-up Roller [11].



5. Remove C-clip (black) of the Paper Take-up Roller, and remove the Paper Take-up Roller [12].

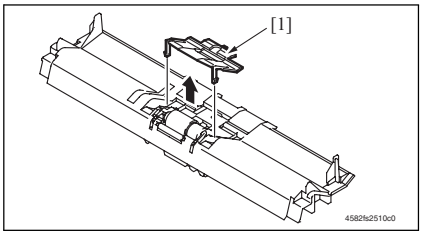
NOTE

- **Be careful not to lose the Pick-Up/ Take-Up Roller fixing pin.**

6. To reinstall, reverse the order of removal.

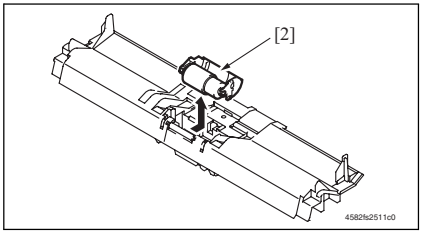
7. Select "Service Mode" → "Counter" → "Life" and clear the count of "ADF Feed."

2.1.3 Separation Roller



A. Replacing procedure

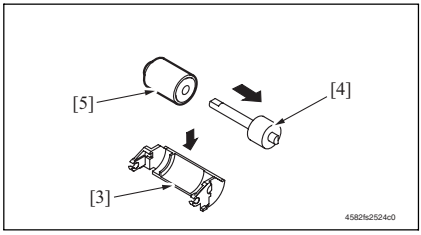
1. Unlock the Separation Roller Cover locking claws, and remove the Separation Roller Cover [1].



2. Remove the Separation Roller Assy [2].

NOTE

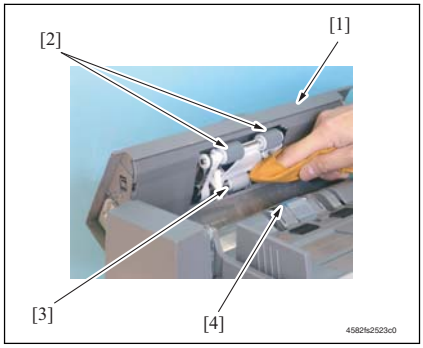
- **The Separation Roller Assy is of a set-in type. Pinch the roller shaft at both ends and pull out the Separation Roller Assy upward.**



3. Remove the Holder [3] and the shaft [4], and remove the Separation Roller [5].

4. To reinstall, reverse the order of removal.

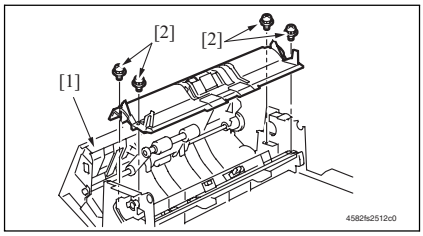
2.1.4 Pick-up Roller / Paper Take-up Roller / Separation Roller



A. Cleaning procedure

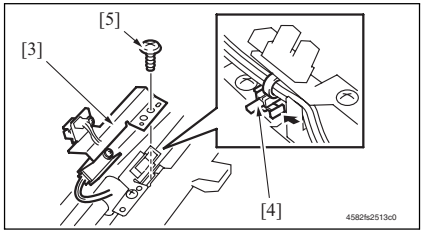
1. Open the Paper Take-up Section Cover [1].
2. Wet a cloth with alcohol, and use it to wipe up the Pick-up Roller [2], Paper Take-up Roller [3] and Separation Roller [4].

2.1.5 Registration Roller

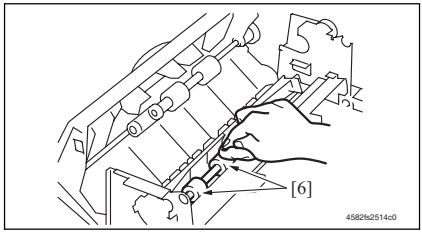


A. Cleaning procedure

1. Open the Paper Take-up Section Cover [1].
2. Remove four screws [2] from the Registration Roller Cover.

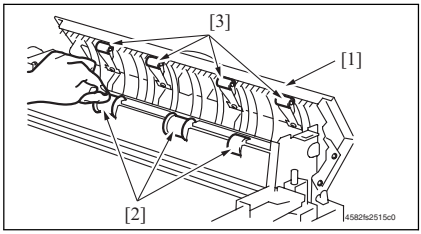


3. Remove the Wire Harness Saddle [4] and the screw [5] from the Registration/Timing Sensor mounting plate [3].



4. Wet a cloth with alcohol, and use it to wipe up the Registration Roller [6].

2.1.6 Exit Roller / Roll

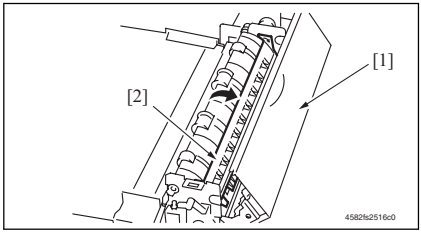


A. Cleaning procedure

1. Open the Paper Exit Section Cover [1].

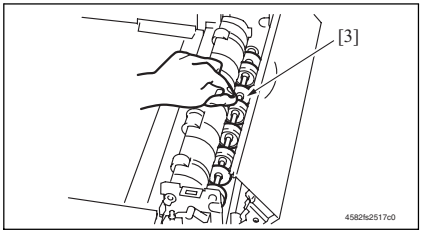
2. Wet a cloth with alcohol, and use it to wipe up the Exit Roller [2]/Roll [3].

2.1.7 Turnover Roller



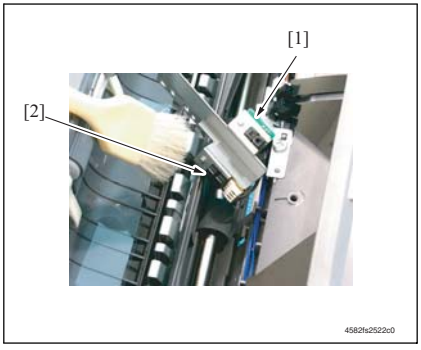
A. Cleaning procedure

1. Open the Paper Exit Section Cover [1], and open the Turnover Guide Plate [2].



2. Wet a cloth with alcohol, and use it to wipe up the Turnover Roller [3].

2.1.8 Sensor Section

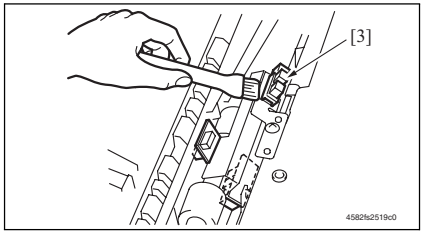


A. Cleaning procedure

1. Remove the Registration/Timing Sensor mounting plate.

☞ 8

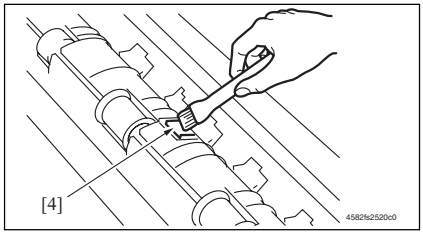
2. Clean the Registration [1]/Timing Sensor [2] with a blower brush or the like.



3. Remove the Registration Roller Cover.

☞ 8

4. Clean the Paper Empty Sensor [3] with a brush or the like.



5. Open the Paper Exit Section Cover.

6. Clean the Paper Exit Sensor [4] with a brush or the like.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

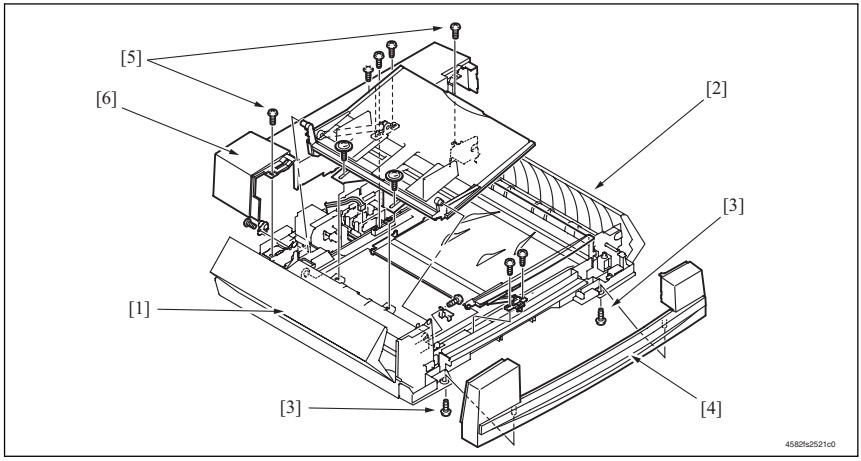
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Front Cover	☞ 12
2		Rear Cover	☞ 12
3	Unit	ADF	☞ 12

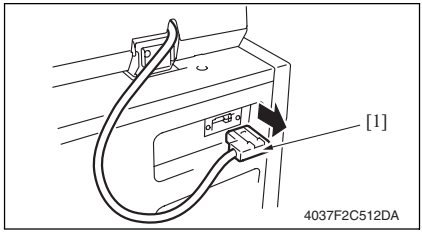
3.3 Disassembly/Assembly procedure

3.3.1 Front Cover/Rear Cover

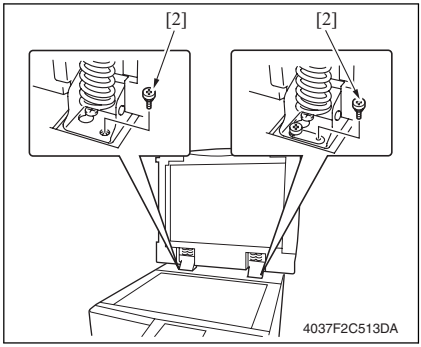


1. Open the Paper Take-up Section Cover [1] and the Paper Exit Section Cover [2].
2. Remove the Front Cover [4] by removing two screws [3].
3. Remove the Rear Cover [6] by removing two screws [5].

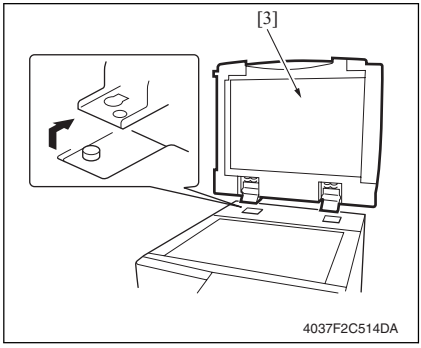
3.3.2 ADF



1. Remove the connector for ADF [1] from the machine.



2. Open the ADF.
3. Remove two screws [2].



4. Remove the ADF [3].

Blank Page

Adjustment/Setting

4. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Service Mode

5.1 Service Mode setting procedure

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

5.2 ADF setting procedure

5.2.1 Original Stop Position

Functions	• To make a manual adjustment of the document stop position and scanning position in each of the ADF modes.
Use	• When “Auto Adjust Stop Position” is NG.
Setting/ Procedure	☞ 26

5.2.2 Registration Loop Adj.

Functions	• To adjust the length of the loop to be formed in paper before the Registration Rollers.
Use	• When a document misfeed or skew occurs.
Setting/ Procedure	☞ 28

5.2.3 Auto Stop Position Adjustment

A. Sub Scanning Direction 1-Side

Functions	• Adjust the document stop position for the first side. • Check for skew.
Use	• Upon replacement of the ADF
Setting/ Procedure	☞ 23

B. Sub Scanning Direction 2-Side

Functions	• Adjust the document stop position for the second side.
Use	• Upon replacement of the ADF
Setting/ Procedure	☞ 24

C. Main Scanning Direction

Functions	• Adjust the start position for image scanning
Use	• Upon replacement of the ADF
Setting/ Procedure	☞ 25

5.2.4 Paper Passage

Functions	• To check for paper passage through the ADF in each of the ADF modes.
Use	• Used for checking the document path for any abnormal condition when a document misfeed occurs.
Setting/ Procedure	<Procedure> *1.* Set the mode to the Service Mode. *2.* Touch the “ADF” key. *3.* Touch the “Paper Passage” key. *4.* Select the Paper Passage Mode to be tested from “1-Sided No Detect”, “1-Sided Mixed Orig” and “2-Sided”. *5.* Set the Original in the Take-up Tray. The Start key color changes from orange to green. *6.* Press the “Start” key. The operation starts. **NOTES** **• After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.** **• If the Stop key is pressed during the test operation, the test will be forced to end.** **• If there is no Original set in the Take-up Tray, the Start key will not work.** **• All Originals set in the Take-up Tray are passed through. Upon the completion of all Originals passed through, the Paper Through Test ends.**

5.2.5 Sensor Check

Functions	• To check sensors on the paper path.
Use	• When a document misfeed occurs.

A. Check procedure

• To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

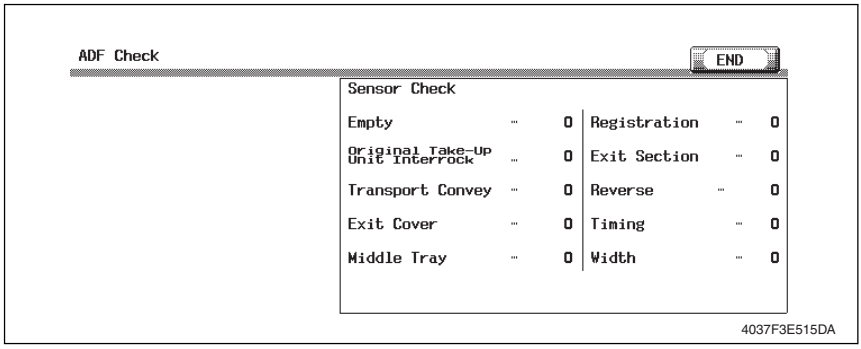
<Procedure>

1. Set the mode to the Service Mode.
2. Touch the “ADF” key.
3. Touch the “Sensor Check” key.
4. Operate the sensor to check by using paper or the like, and check the screen display. (Paper detected: 1, No paper detected: 0)

5.3 Sensor check list

5.3.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



- Note with care that the Take-up (Feed) Section Open / Close Sensor, the Transport (Convey) Section Open / Close Sensor, the Exit Section Open / Close Sensor and the Middle Tray Open / Close Sensor are displayed as Faulty Set Detected when they are opened. The “20 Degree” on the IR. The ADF up to 20 degree open when sensor (PC202) detected.

<Output display of Width S>

- The operation of the sensor can be checked whether it is normal or faulty by changing the guide width of the Document Take-up Tray to change the output value.

A. Sensor monitor

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC4-DF	Empty	Empty Sensor	Paper not present	Paper present
PC3-DF	Original Take-Up Unit Inter lock	Take-up Cover Sensor	OPEN	CLOSE
PC7-DF	Exit Cover	Exit Cover Sensor	OPEN	CLOSE
PC202	Transport Convey	Original Cover Angle Sensor	OPEN	CLOSE
PC8-DF	Middle Tray	Tray Open/Close Sensor	OPEN	CLOSE
PC1-DF	Registration	Registration Sensor	Paper present	Paper not present
PC6-DF	Exit Section	Exit Sensor	Paper present	Paper not present
PC5-DF	Reverse	Turnover Sensor	Paper present	Paper not present
PC2-DF	Timing	Pick-up Sensor	Paper present	Paper not present
R1-DF	Width	Document Size Volume		

5.3.2 Original Tray Width

Functions	• To set the maximum and the minimum width for the width sensor.
Use	• When a document misfeed occurs. • When an original size is erroneously detected
Setting/ Procedure	☞ 20

5.3.3 Sensor Auto Adjust

Functions	• To make an automatic adjustment of the sensor.
Use	• When a document misfeed occurs. • When the sensor is replaced.
Setting/ Procedure	☞ 29

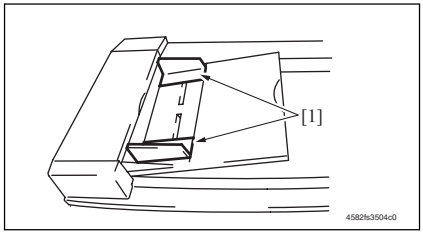
6. Mechanical adjustment

6.1 Adjustment of the tray volume

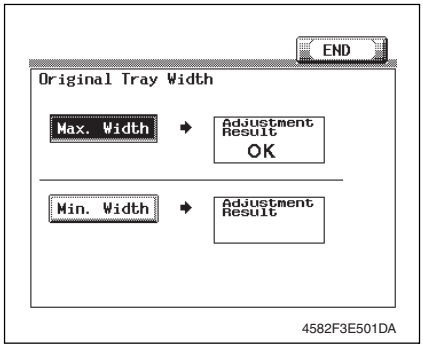
- Read out the value of maximum width and minimum width of the document width detection volume interlocked with the Document Take-up Tray Edge Guide.

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Original Tray Width.”

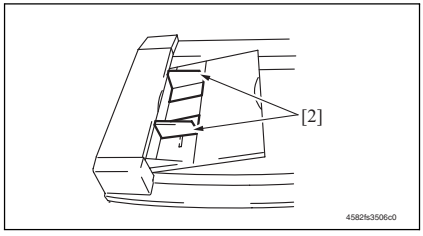
A. Adjustment procedure



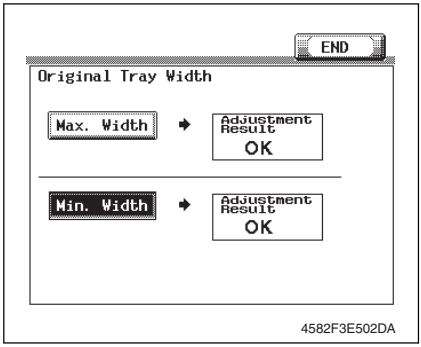
1. Widen the width across the edge guides [1] by sliding them to their maximum width.
2. Touch “Max. Width.”



3. Press the “Start” key. Confirm that the Result is “OK.”



4. Narrow the width across the edge guides [2] by sliding them to their minimum width.



5. Touch “Min. Width.”
6. Press the “Start” key. Confirm that the Result is “OK.”
7. Touch “END.”
8. Touch “Exit” on the Service Mode screen.

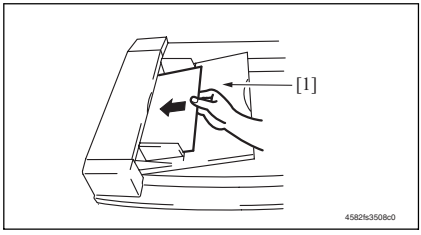
If the Result is “NG”:

- Possible causes includes failure of the document width detection volume (R1-DF), wrong wiring to the volume and failure of the PWB-A DF.

6.2 Adjustment of the document edge guide reference position

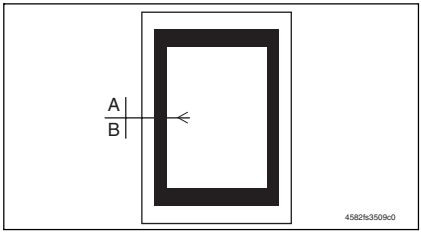
Adjustment standard: Displacement of the document edge should be within 4 ± 1 mm to the Feed Direction scale.

A. Adjustment procedure



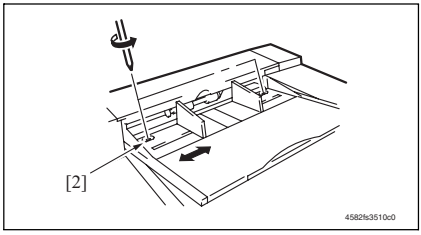
1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:

- Auto Paper
- 1-sided original / 1-side copy



3. Press the “Start” key.
4. Fold the copy in half.
5. With reference to the crease, check to see if the arrow is on the side of A or B.
   Specifications: ± 2 mm from the center

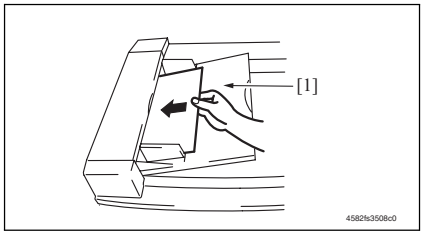
- If the deviation falls outside the specified range, use the following procedure to make an adjustment.



6. Loosen screw [2] (two on the front side and three on the backside) on the document feeding tray.
   If the crease deviates on the side of A, move the tray to the front.
   If the crease deviates on the side of B, move the tray to the rear.
7. Make recheck.

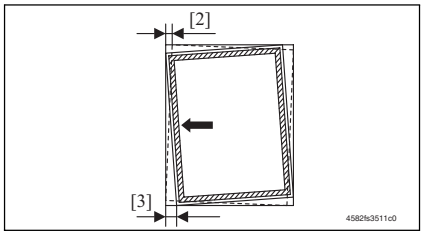
6.3 Adjustment of the document skew

Adjustment standard: Skew should be ± 1.0 % or less with respect to the document length; within 3.0 mm for document of A4 size.



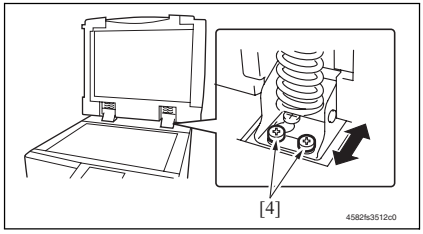
1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:

- Auto Paper
- 1-sided original / 1-side copy



3. Press the “Start” key.
4. Check in which direction, [2] or [3], the image tilts on the copy fed out of the machine.
   Specifications: Tilt 3.0 mm max.

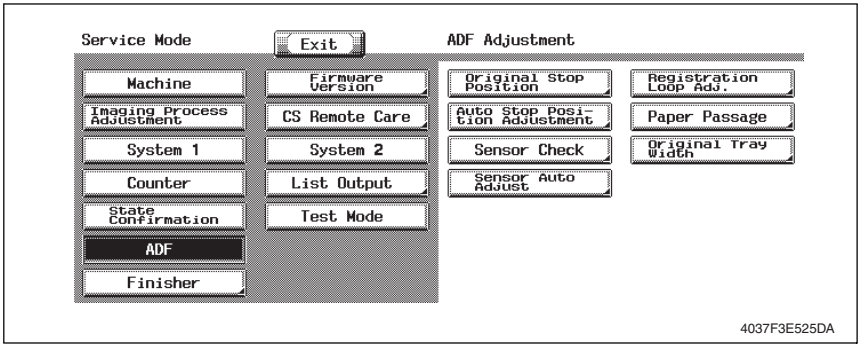
- If the image tilts more than the specifications, perform the following steps to make the adjustment.



5. Loosen two front screws [4] on the right hinge.
6. If the image tilts in direction of [2], move the Document Feeder toward the front.
   If the image tilts in direction of [3], move the Document Feeder toward the rear.
7. Tighten two screws [4].
8. Make recheck.

6.4 Adjustment of the document stop position

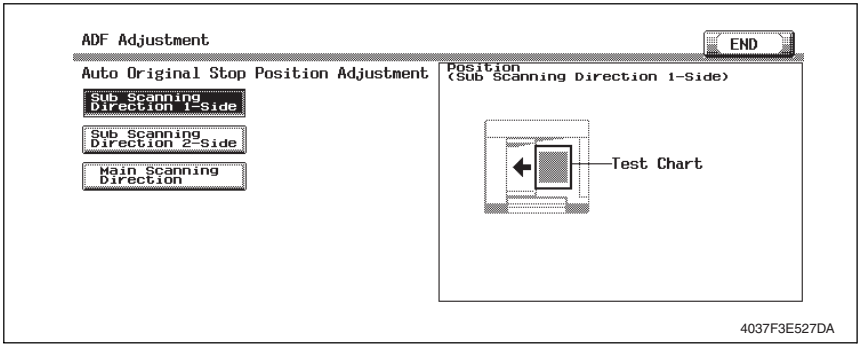
- Adjustment of the document stop position is made automatically and manually (by entering numbers).
  The following adjustment is made in the Service Mode.

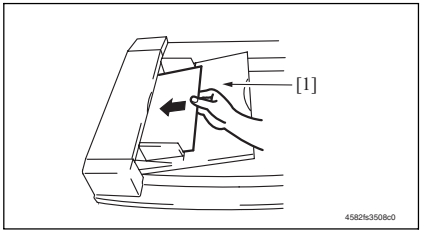


6.4.1 Auto adjust: Sub Scanning Direction 1-Side

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Auto Stop Position Adjustment.”
4. Touch “Sub Scanning Direction 1-Side.”





5. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
6. Press the “Start” key.

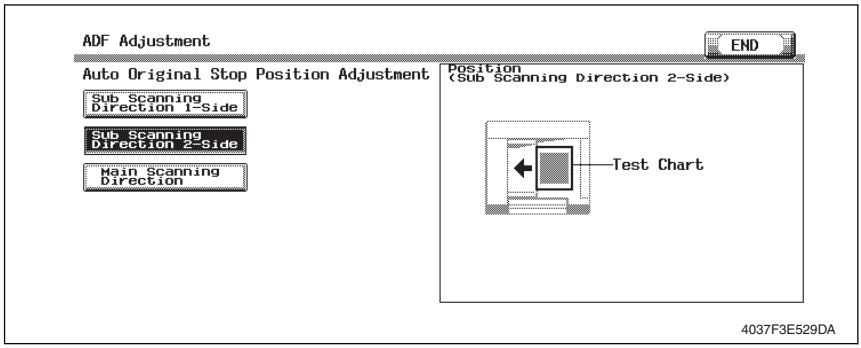
7. Make sure that Result is “OK.” Then, touch “SET.”
8. Touch “END.”
9. Touch “Exit” on the Service Mode screen.

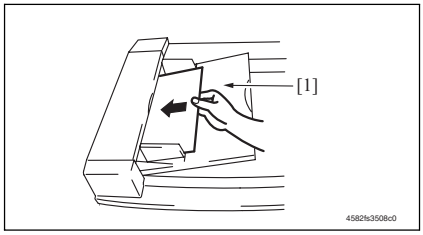
If the Result is “NG”:
- Check and correct the skew of the document.
- Manually correct the value of “1-Sided Set.”

6.4.2 Auto adjust: Sub Scanning Direction 2-Side

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Auto Stop Position Adjustment.”
4. Touch “Sub Scanning Direction 2-Side.”





5. Place the chart furnished with the Document Feeder [1] in the document feeding tray.

NOTE
- **Make sure that the blank surface of the chart faces up.**

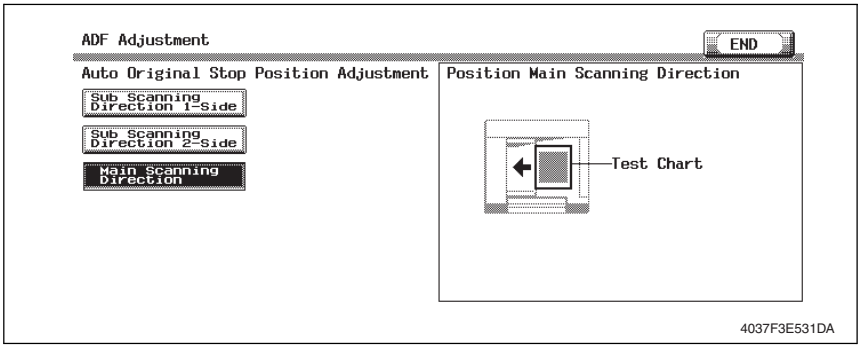
6. Press the “Start key.”
7. Check that Result is “OK” and then touch “SET.”
8. Touch “END.”
9. Touch “Exit” on the Service Mode screen.

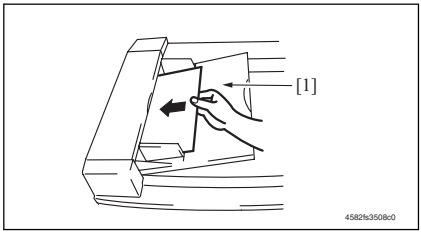
If the Result is “NG”:
- Check and correct the skew of the document.
- Manually correct the value of “2-Sided Set.”

6.4.3 Auto adjust: Main Scanning Direction

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Auto Stop Position Adjustment.”
4. Touch “Main Scanning Direction.”





5. Place the chart furnished with the Document Feeder in the document feeding tray (with the side having an arrow facing up).
6. Press the “Start” key.
7. Check that Result is “OK” and then touch “SET.”
8. Touch “END.”
9. Touch “Exit” on the Service Mode screen.

If the Result is “NG”:

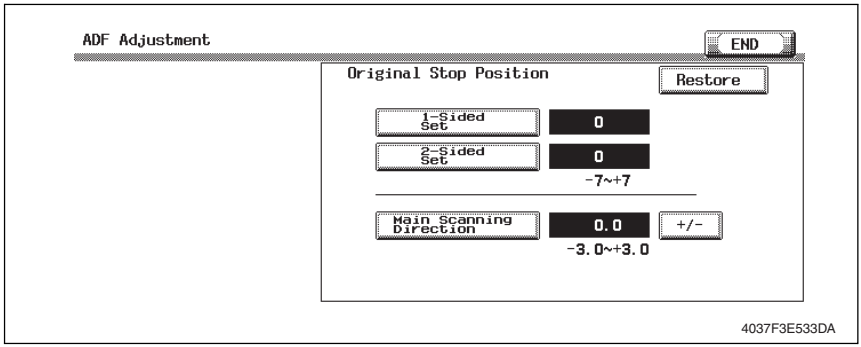
- Check and correct the skew of the document.
- Manually correct the value of “Main Scanning Direction.”

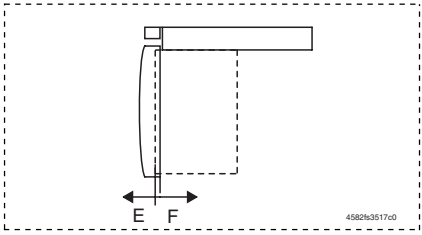
6.4.4 Manual adjust: 1-Sided Set/ 2-Sided Set

Adjusted range: -7 mm to + 7 mm

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Original Stop Position.”





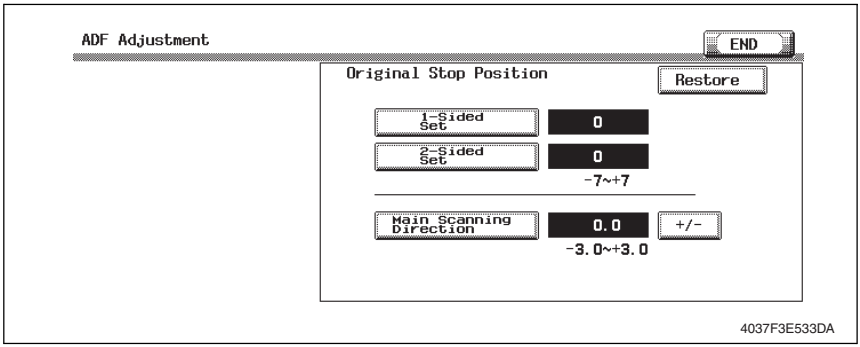
4. Select “1-Sided Set” or “2-Sided Set.”
5. Enter the value from the ten-key pad. (Press the “+/-” key to change the +/- code.)
   - To shift the position in the direction of F, set the code to +.
   - To shift the position in the direction of E, set the code to -.
6. Touch “END.”

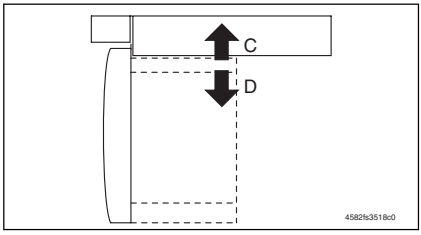
6.4.5 Manual adjust: Main Scanning Direction

Adjusted range: -3 mm to + 3 mm

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Original Stop Position.”





4. Select “Main Scanning Direction.”
5. Enter the value from the ten-key pad. (Press the “+/-” key to change the code.)

- To scan the image in the direction of C, set the code to -.
- To shift the image in the direction of D, set the code to +.

6. Touch “END.”

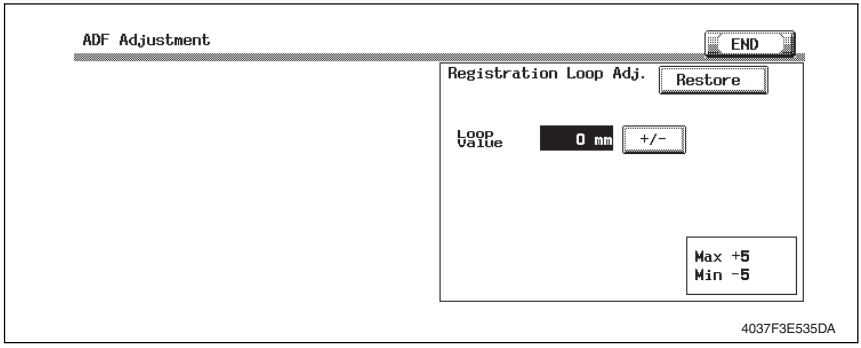
6.5 Adjustment of the registration loop value

Adjusted range: -5 mm to + 5 mm Default value: 0 (Loop value: 5 mm)

- The loop value is increased by the entered + value and decreased by the entered - value.
- Too much loop value may result in dog-eared document, and too little loop value may result in askew document.

A. Adjustment Procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Registration Loop Adj.”
4. Select the registration loop value.



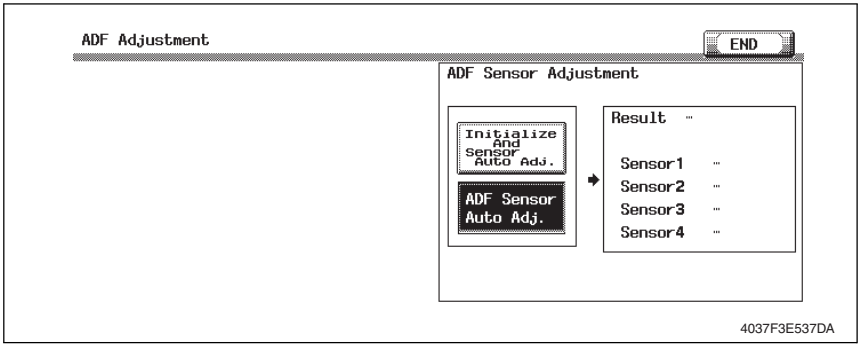
5. Enter the value from the ten-key pad. (Press the “+/-” key to change the +/- code.)
6. Touch “END.”

6.6 Sensor auto adjustment

- The detection level of the document through path sensor is automatically adjusted.
- The adjustment has two modes: “Initialize And Sensor Auto Adj.” and “ADF Sensor Auto Adj.”
- Make this adjustment as appropriate after the replacement of the Control Board (PWB-A DF) or in case of the document detection error.

A. Adjustment procedure

1. Call the Service Mode to the screen.
2. Touch “ADF.”
3. Touch “Sensor Auto Adjust.”



4. Select “Initialize and Sensor Auto Adj.” or “ADF Sensor Auto Adj.”
5. Press the Start key.
6. If the result is “OK” touch the “END” key on the panel.
7. If the result is “NG” check the influencing sensor, replace it if necessary, and then make readjustment.

Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

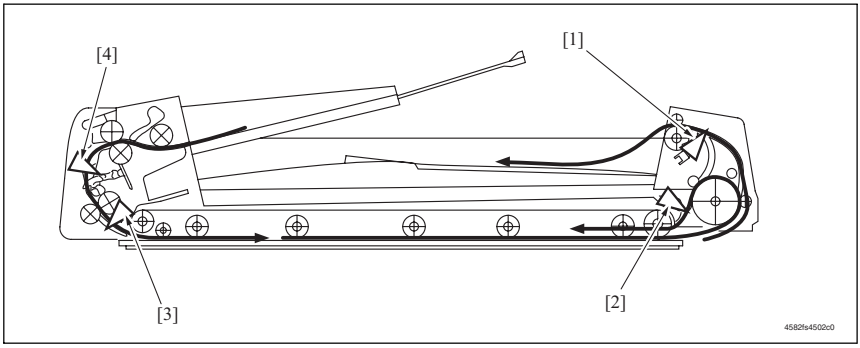
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Code	Misfeed location	Misfeed access location	Action
6401	Paper Exit / Turnover section	Paper Exit section Cover	☞ 34
6403	Transport section	Paper Take-Up section Cover	☞ 33
6402	Paper Take-Up section	Paper Take-Up section Cover	☞ 32
6404	Transport Tray section	Paper Exit section Cover	☞ 35

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Exit Sensor PC6-DF
[2] Turnover Sensor PC5-DF
[3] Pick-up Sensor PC2-DF
[4] Registration Sensor PC1-DF

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Paper Take-Up section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Registration Sensor	Misfeed is detected if the Registration Sensor (PC1-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started normal rotation.
Misfeed due to paper not reached the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started reverse rotation.

B. Action

Relevant electrical parts	
Registration Sensor (PC1-DF) Pick-up Sensor (PC2-DF) Take-up Motor (M1-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1-DF I/O, sensor check	PWB-A DF CN7A-9 (ON)	ADF G-5
3	PC2-DF I/O, sensor check	PWB-A DF CN7A-12 (ON)	ADF G-5
4	M1-DF operation check	PWB-A DF CN5A-1 to 6	ADF B to C-6
5	PWB-A DF replacement	—	—

7.3.3 Transport section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned OFF within a preset time after the Take-up Motor (M1-DF) started reverse rotation.
Misfeed due to paper not reached the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned ON within a preset time after the Transport Motor (M2-DF) started.

B. Action

Relevant electrical parts	
Pick-up Sensor (PC2-DF) Turnover Sensor (PC5-DF) Take-up Motor (M1-DF) Transport Motor (M2-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC2-DF I/O, sensor check	PWB-A DF CN7A-12 (ON)	ADF G-5
3	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	ADF C-4
4	M1-DF operation check	PWB-A DF CN5A-1 to 6	ADF B to C-6
5	M2-DF operation check	PWB-A DF CN4A-1 to 6	ADF B to C-6
6	PWB-A DF replacement	—	—

7.3.4 Paper Exit / Turnover section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned OFF within a preset time after the Turnover Sensor (PC5-DF) was tuned ON.
Misfeed due to paper not reached the Exit Sensor (in the 2-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after the Turnover Sensor (PC5-DF) was turned ON in the 2-Sided mode.
Misfeed due to paper remaining at the Exit Sensor	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned OFF within a preset time after the Exit Sensor (PC6-DF) was tuned ON.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF) Exit Motor (M3-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	ADF C-4
3	PC6-DF I/O, sensor check	PWB-A DF CN9A-6 (ON)	ADF C-4
4	M3-DF operation check	PWB-A DF CN3A-1 to 6	ADF B to C-7
5	PWB-A DF replacement	—	—

7.3.5 Transport Tray section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Exit Sensor (in the 1-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after exit operation started in the 1-Sided Mode.
Misfeed at the Transport Tray	Misfeed is detected if the difference between the paper feeding size measured at the Turnover Sensor (PC5-DF) and that measured at the Exit Sensor (PC6-DF) is 20 mm or more.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF)	Control Board (PWB-A DF)

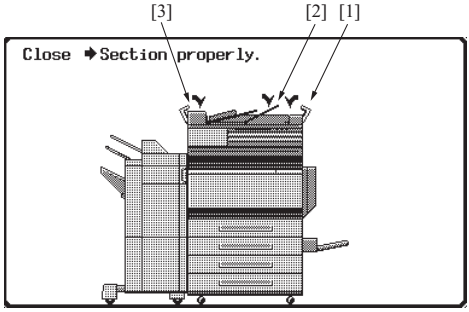
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	ADF C-4
3	PC6-DF I/O, sensor check	PWB-A DF CN9A-6 (ON)	ADF C-4
4	PWB-A DF replacement	—	—

NOTE

- **Each sensor is automatically adjusted when the Main Power Switch is turned ON as special means for detecting a paper misfeed. If a sensor adjustment error occurs through this procedure, a misfeed is detected as paper remaining misfeed at the corresponding sensor.**

8. Set error detection

- When the ADF or cover set error for some reason is detected, the Panel of the main unit will have the following display.



4582F4E502DA

<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	Paper Exit section Cover set error	When the Main Power Switch turn ON.	Paper Exit section Open/ Close Sensor (when light-blocked)
[2]	Transport Tray section Cover set error	When the Main Power Switch turn ON.	Transport Tray Open/Close Sensor (when light- blocked)
[3]	Paper Take-Up section Cover set error	When the Main Power Switch turn ON.	Paper Take-Up Section Open/ Close Sensor (when light-blocked)
-	ADF set error	When the document is set in the ADF	Size Reset Switch on the main unit (when turned ON)

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

Automatic Duplex Unit

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show ⚠1 to the left of the revised section.
  A number within ⚠1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specifications 1
   1.1 Type 1
   1.2 Paper type 1
   1.3 Machine specifications 1
   1.4 Operating environment 1

Maintenance

2. Periodical check 3
   2.1 Maintenance procedure (Periodical check parts) 3
      2.1.1 Transport Roller / Roll 1 3
      2.1.2 Transport Roller / Roll 2, 3 3
      2.1.3 Ventilation Section 4
3. Other 5
   3.1 Disassembly/Adjustment prohibited items 5
   3.2 Disassembly/Assembly list (Other parts) 6
   3.3 Disassembly/Assembly procedure 6
      3.3.1 Duplex Unit 6

Adjustment/Setting

4. How to use the adjustment section 7
5. Sensor check 8
   5.1 Check procedure 8
   5.2 Sensor check list 8
      5.2.1 Sensor check screen 8
      5.2.2 Sensor check list 8
6. Mechanical adjustment 9
   6.1 Adjusting the paper reference position 9

Troubleshooting

7. Jam Display 11
   7.1 Misfeed display 11
      7.1.1 Misfeed display resetting procedure 11
   7.2 Sensor layout 11
   7.3 Solution 12
      7.3.1 Initial check items 12

7.3.2 Duplex Unit transport section misfeed 13

General

1. Product specifications

1.1 Type

Name	Duplex Unit
Type	Switchback and Circulating Duplex Unit
Installation	Mounted on the right side door of main unit
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	60 to 256 g/m^2 (16 to 68 lb)
Paper Size	A5R to A3 Wide, 5.5 × 8.5R to 12 × 18	
Print paper size	width	139.7 to 311.2 mm (5.5 x 12.25 inch)
	length	176.0 to 457.2 mm (7 x 18 inch)

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 % (supplied from the main unit)
Dimensions	109 mm (W) × 440 mm (D) × 344 mm (H) 4.25 inch (W) × 17.25 inch (D) × 13.5 inch (H)
Weight	2.9 kg (6.5 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

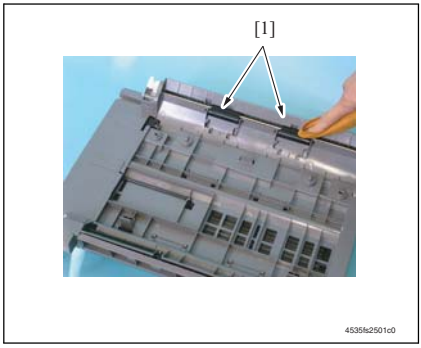
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

2.1.1 Transport Roller / Roll 1



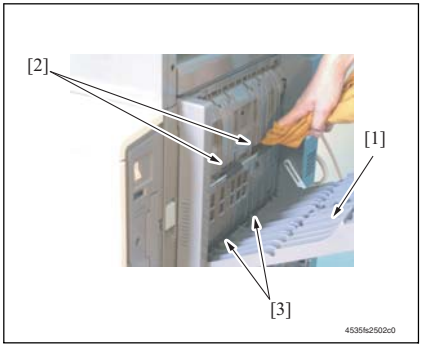
A. Cleaning procedure

1. Remove the Duplex Unit.

☞ 6

2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 1 [1] clean of dirt.

2.1.2 Transport Roller / Roll 2, 3

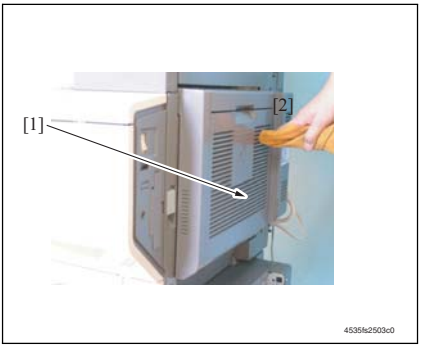


A. Cleaning procedure

1. Open the Duplex Unit Door [1].

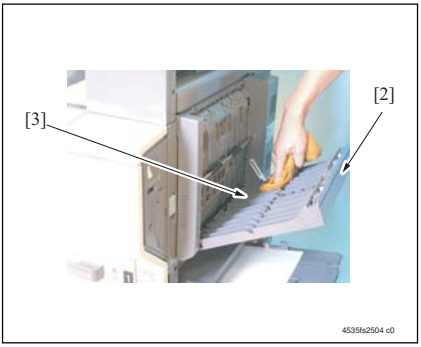
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 2 [2], 3 [3] clean of dirt.

2.1.3 Ventilation Section



A. Cleaning procedure

1. Using a soft cloth dampened with alcohol, wipe the outside of the Ventilation Section [1] clean of dirt.



2. Open the Duplex Unit Door [2].

3. Using a soft cloth dampened with alcohol, wipe the inside of the Ventilation Section [3] clean of dirt.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

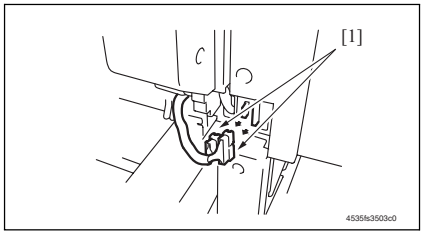
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly list (Other parts)

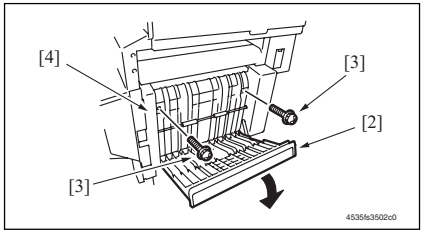
No	Section	Part name	Ref. page
1	Unit	Duplex Unit	☞ 6

3.3 Disassembly/Assembly procedure

3.3.1 Duplex Unit



1. Remove the wiring cover.
☞ For details of how to remove the wiring cover, see the Maintenance of the main unit service manual.
2. Unplug two connectors [1].



3. Open the Duplex Unit Door [2].
4. Remove two screws [3], and remove the Duplex Unit [4].

Adjustment/Setting

4. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Set the mode to the Service Mode.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

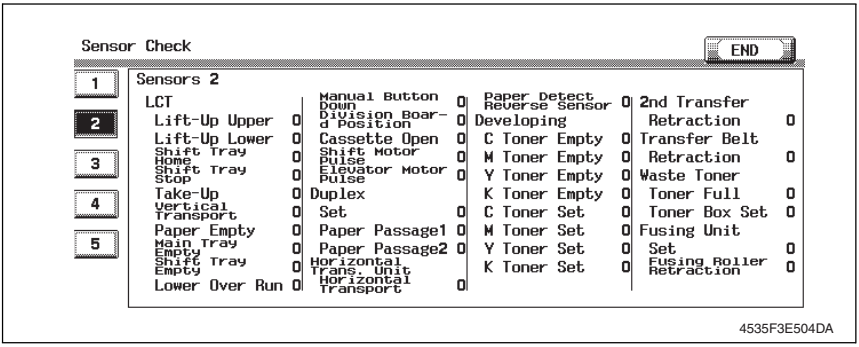
2. Touch the “State Confirmation” key.

3. Touch the “Sensor Check” key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



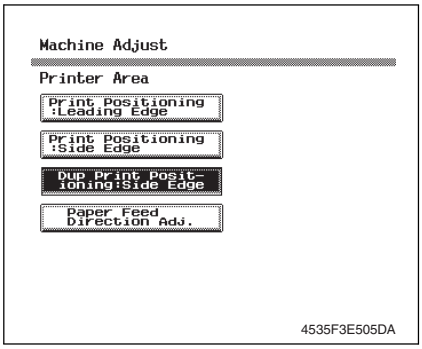
5.2.2 Sensor check list

A. Sensor monitor 2

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI2-DU	Set	Duplex Unit Door Set Sensor	OPEN	CLOSE
PI1-DU	Paperpassage 1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC1-DU	Paperpassage 2	Duplex Unit Transport Sensor 2	Paper present	Paper not present

6. Mechanical adjustment

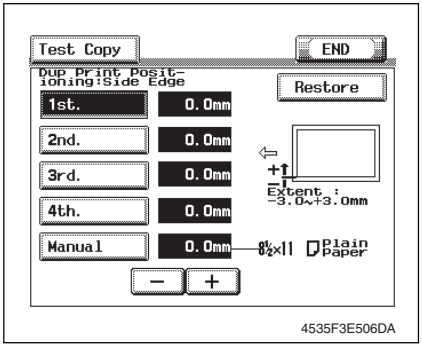
6.1 Adjusting the paper reference position



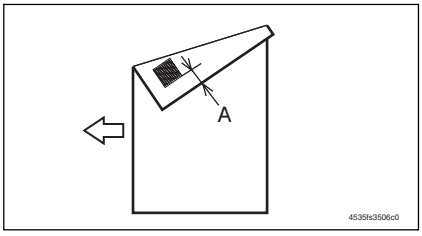
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch “Machine”→“Printer Area”→“Dup Print Positioning: Side Edge.”



3. Touch “1st.” and then press the “Start” key. A test print will then be produced.



4. Measure the width of printed reference line A.
   Specifications: 3.0 mm ± 1.0 mm
5. If the measured width A falls outside the specified range, enter the correction value.
6. Produce another test print and check for width A.

Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

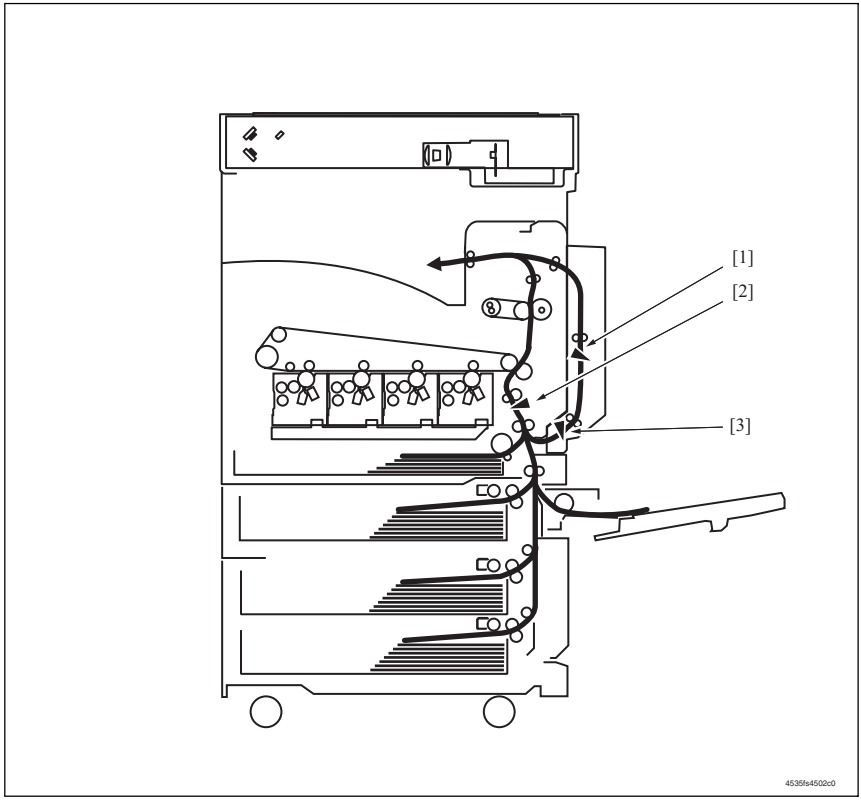
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Code	Misfeed location	Misfeed access location	Action
9201	Duplex Unit transpor section misfeed	Duplex Unit Door	☞ 13
9301	Duplex Unit pre-registration section misfeed		

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Duplex Unit Transport Sensor 1 PI1-DU
[2] Synchronizing Roller Sensor PC28
[3] Duplex Unit Transport Sensor 2 PC1-DU

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Duplex Unit transport section misfeed

A. Detection timing

Type	Description
Duplex Unit transport section misfeed detection	The Synchronizing Roller Sensor(PC28) is not blocked even after the lapse of a given period of time after the Duplex Paper Take-up sequence started.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not blocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PI1-DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PI1-DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 2 (PC1-DU) is blocked by the paper.
Detection of paper remaining in the Duplex Unit transport section	The Duplex Unit Transport Sensor 1 (PI1-DU) or Duplex Unit Transport Sensor 2 (PC1-DU) are blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Synchronizing Roller Sensor (PC28) Duplex Unit Transport Sensor 1 (PI1-DU) Duplex Unit Transport Sensor 2 (PC1-DU) Switchback Motor (M1-DU) Duplex Unit Transport Motor (M2-DU)	Duplex Control Board (PWB-A DU) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC28 I/O, sensor check	PWB-MC PJ24MC-6 (ON)	C450 C to D-3
3	PI1-DU I/O, sensor check	—	—
4	PC1-DU I/O, sensor check	—	—
5	M1-DU operation check	PWB-A DU PJ3A-1 to 4	Duplex Unit C to D-5
6	M2-DU operation check	PWB-A DU PJ2A-1 to 4	Duplex Unit C to D-5
7	PWB-A DU replacement	—	—
8	PWB-MC replacement	—	—

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-102/PC-202

2005.03
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specifications 1
1.1 Type 1
1.2 Paper type 1
1.3 Machine specifications 1
1.4 Operating environment 1

Maintenance

2. Periodical check 3
2.1 Maintenance procedure (Periodical check parts) 3
2.1.1 Replacing the Separation Roller Assy 3
2.1.2 Replacing the Paper Take-up Roller 4
2.1.3 Replacing the Pick-up Roller 6
3. Other 8
3.1 Disassembly/Adjustment prohibited items 8
3.2 Disassembly/Assembly/Cleaning list (Other parts) 9
3.2.1 Disassembly/Assembly parts list 9
3.2.2 Cleaning parts list 9
3.3 Disassembly/Assembly procedure 10
3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover 10
3.3.2 Rear Cover 10
3.4 Cleaning procedure 11
3.4.1 Separation Roller 11
3.4.2 Paper Take-up Roller 11
3.4.3 Pick-up Roller 12
3.4.4 Vertical Transport Roller 12

Adjustment/Setting

4. How to use the adjustment section 13
5. Sensor check 14
5.1 Check procedure 14
5.2 Sensor check list 14
5.2.1 Sensor check screen 14
5.2.2 Sensor check list 15
6. Mechanical adjustment 16
6.1 Adjusting the paper reference position 16

6.1.1 Print Positioning: Side Edge 16
6.1.2 Dup Print Positioning: Side Edge 17

Troubleshooting

7. Jam Display 19
7.1 Misfeed display 19
7.1.1 Misfeed display resetting procedure 19
7.2 Sensor layout 20
7.3 Solution 21
7.3.1 Initial check items 21
7.3.2 Tray3 Paper Take-Up section/Vertical Transport section misfeed (PC-102/PC-202) 22
7.3.3 Tray4 Paper Take-Up section/Vertical Transport section misfeed (PC-202) 23
8. Trouble code 24
8.1 Trouble code display 24
8.2 Trouble code list 24
8.3 How to reset 24
8.4 Solution 25
8.4.1 C0206: Tray3 Lift-Up Failure
C0208: Tray4 Lift-Up Failure 25

General

1. Product specifications

1.1 Type

Name	2 way Paper Take-Up Cabinet
Type	Front loading type 2 way paper take-up device
Installation	Desk type
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	56 to 256 g/m^2 (15 to 68 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Paper Size	A5R to A3, 5.5 × 8.5R to 11 × 17	
Capacity	3rd Drawer	500 sheets (80 g/m^2, 21.25 lb)
	4th Drawer	500 sheets (80 g/m^2, 21.25 lb)

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	75 W or less
Dimensions	570 mm (W) × 263 mm (H) × 548 mm (D) 22.5 inch (W) × 10.25 inch (H) × 21.5 inch (D)
Weight	PC-102:22.0 kg (48.5 lb) PC-202:25.9 kg (57 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

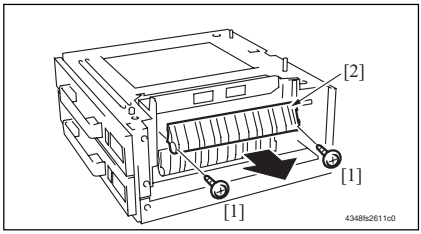
Blank Page

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

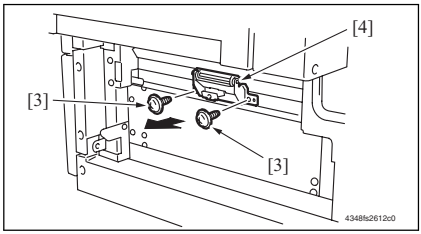
2.1.1 Replacing the Separation Roller Assy



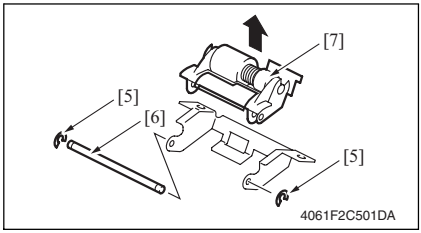
1. Remove the Right Door.

☞ 10

2. Remove two screws [1] and remove the Jam Access Cover [2].



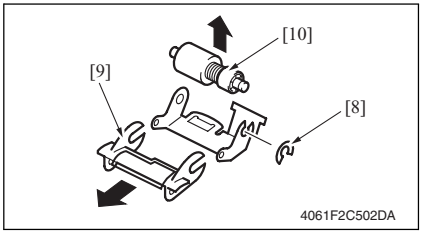
3. Remove two screws [3] and remove the Paper Separation Roller Mounting Bracket Assy [4].



4. Remove two C-rings [5] and the shaft [6], and remove the Paper Separation Roller Fixing Bracket Assy [7].

NOTE

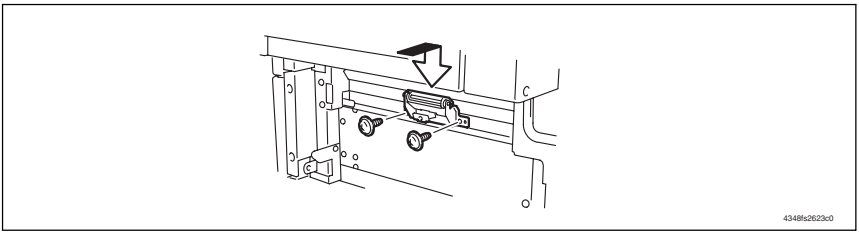
- **Be careful not to lose spring at this time.**



5. Remove the C-ring [8], the Guide [9], and remove the Separation Roller Assy [10].
6. Repeat steps 1 to 3 similarly for the 4th Drawer.

NOTES

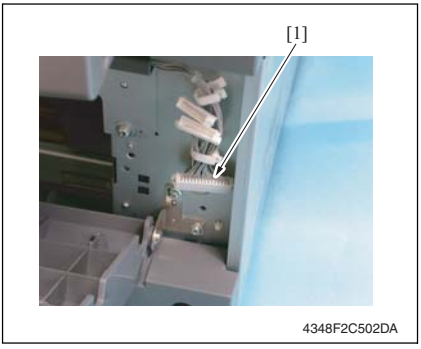
- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.2 Replacing the Paper Take-up Roller



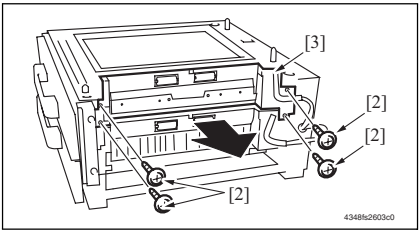
1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)

☞ 10

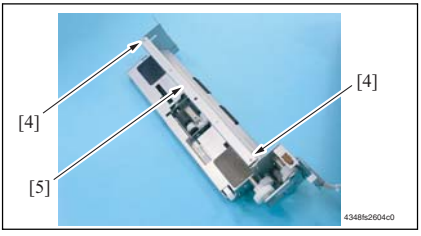
2. Remove the Tray3.(Remove the Tray4 from 4th row.)
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 3

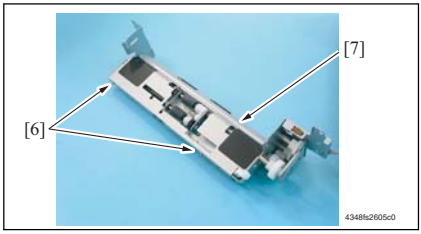
4. Disconnect the connector [1] and remove the harness from two wire saddles.



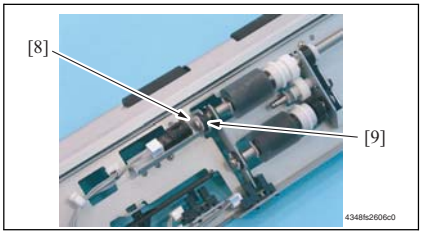
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



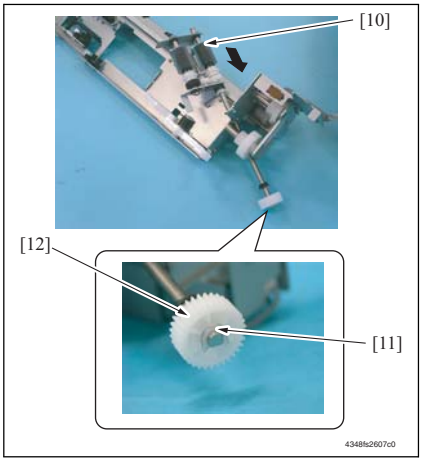
6. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



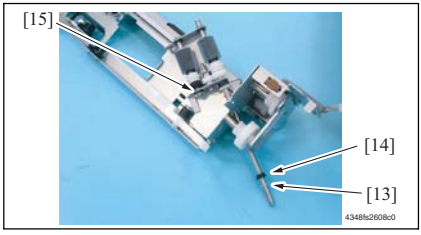
7. Remove two screws [6] and remove the Paper Take-up Cover [7].



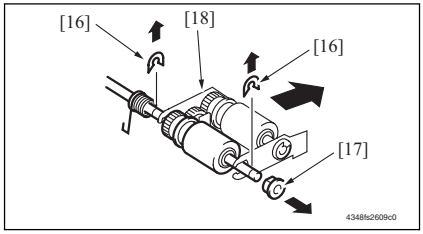
8. Remove the C-ring [8] and remove the bushing [9].



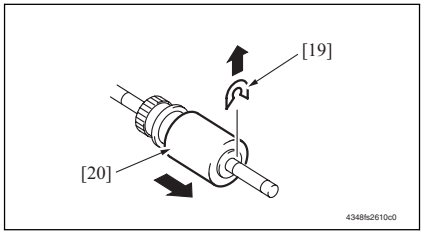
9. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].



10. Remove the C-ring [13], the bushing [14], and remove the shaft Assy [15].



11. Remove two E-rings [16] and the bushing [17], and remove the Pick-up Roller Fixing Bracket Assy [18].

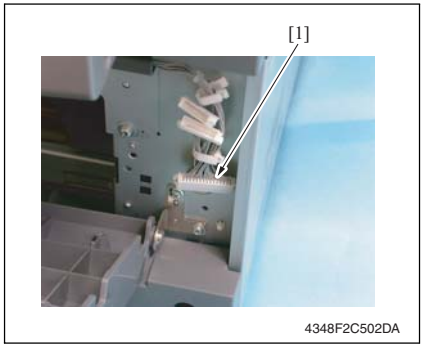


12. Remove the C-ring [19] and remove the Paper Take-up Roller [20].
13. Repeat steps 1 to 11 similarly for the 4th Drawer.

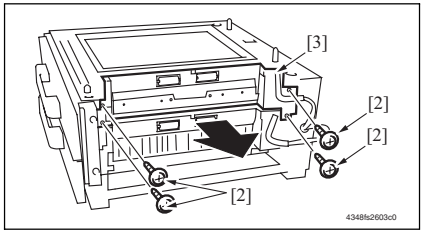
NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

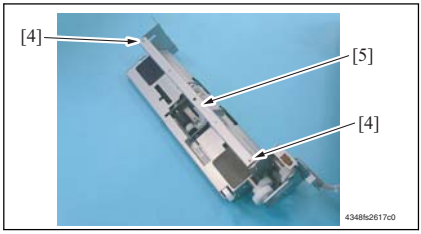
2.1.3 Replacing the Pick-up Roller



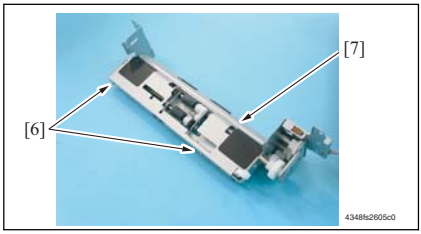
1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)
☞ 10
2. Remove the Tray3.(Remove the Tray4 from 4th row.)
3. Remove the Paper Separation Roller Mounting Bracket Assy.
☞ 3
4. Disconnect the connector [1] and remove the harness from two wire saddles.



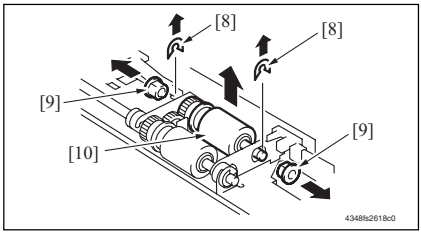
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



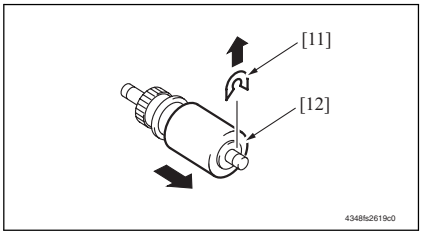
6. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].



8. Remove two C-rings[8], two bushings [9], and remove the Pick-up Roller Assy [10].



9. Remove the C-ring [11] and remove the Pick-up Roller [12].

10. Repeat steps 1 to 8 similarly for the 4th Drawer.

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

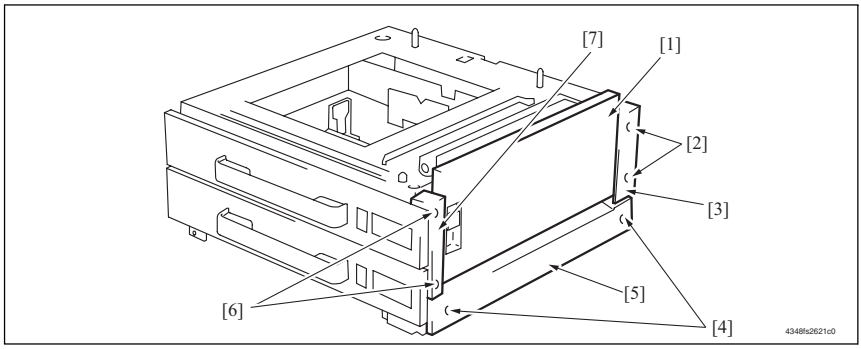
No	Section	Part name	Ref. page
1	Exterior parts	Right Door	☞ 10
2		Rear Right Cover	☞ 10
3		Lower Right Cover	☞ 10
4		Front Right Cover	☞ 10
5		Rear Cover	☞ 10

3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Paper feed section	Separation Roller	☞ 11
2		Paper Take-up Roller	☞ 11
3		Pick-up Roller	☞ 12
4	Transport section	Vertical Transport Roller	☞ 12

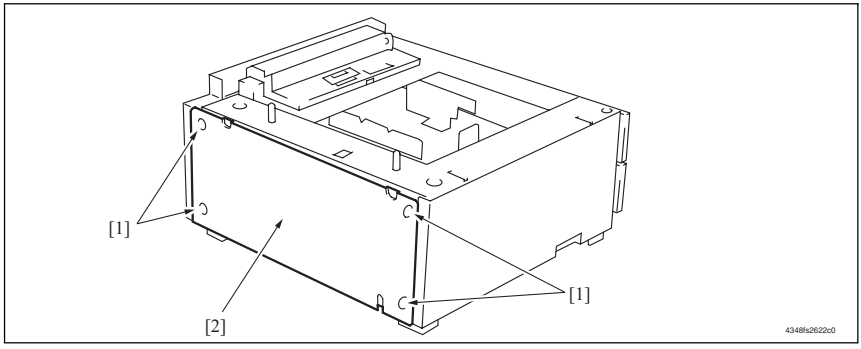
3.3 Disassembly/Assembly procedure

3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

3.3.2 Rear Cover



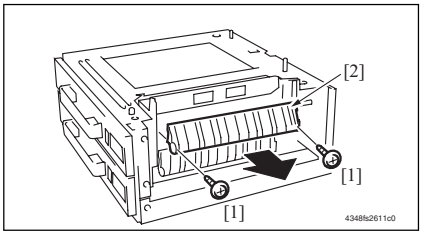
1. Remove four screws [1] and remove the Rear Cover [2].

3.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

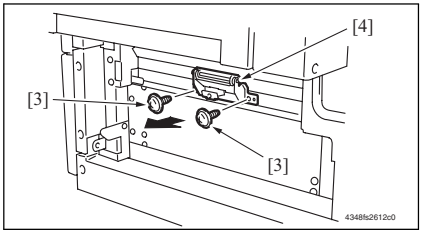
3.4.1 Separation Roller



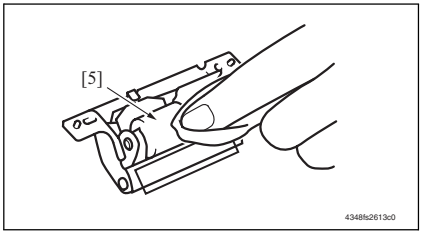
1. Remove the Right Door.

☞ 10

2. Remove two screws [1] and remove the Jam Access Cover [2].

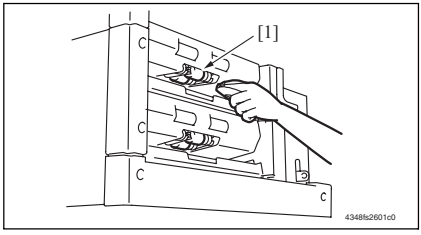


3. Remove two screws [3] and remove the Paper Separation Roller Mounting Bracket Assy [4].



4. Using a soft cloth dampened with alcohol, wipe the Separation Roller [5] clean of dirt.
5. Repeat steps 1 to 4 similarly for the 4th Drawer.

3.4.2 Paper Take-up Roller

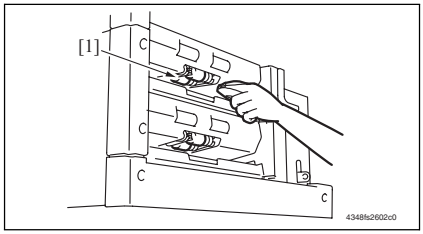


1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 3

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.

3.4.3 Pick-up Roller

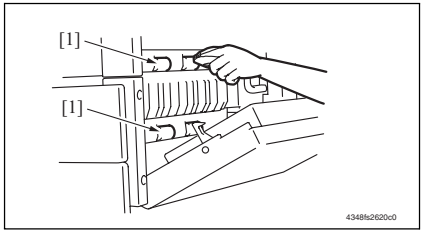


1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 3

3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.

3.4.4 Vertical Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

Adjustment/Setting

4. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

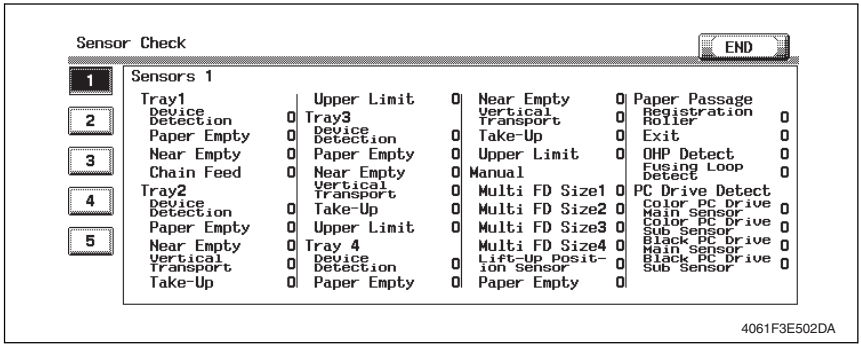
2. Touch the “State Confirmation” key.

3. Touch the “Sensor Check” key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



4061F3E502DA

5.2.2 Sensor check list

A. Sensor monitor 1 (PC-102/PC-202)

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC112-PF	Device Detection	Tray3 Set Sensor	Set	Out of position
PC115-PF	Paper Empty	Tray3 Paper Empty Sensor	Paper not present	Paper present
PC113-PF	Near Empty	Tray3 Paper Near-Empty Sensor	Blocked	Unblocked
PC117-PF	Vertical Transport S	Tray3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PF	Take-Up	Tray3 Paper Take-Up Sensor	Paper present	Paper not present
PC114-PF	Upper Limit	Tray3 Lift-Up Upper Limit Sensor	Raised Position	Not raised
PC121-PF	Device Detection	Tray4 Set Sensor	Set	Out of position
PC124-PF	Paper Empty	Tray4 Paper Empty Sensor	Paper not present	Paper present
PC122-PF	Near Empty	Tray4 Paper Near-Empty Sensor	Blocked	Unblocked
PC126-PF	Vertical Transport S	Tray4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PF	Take-Up	Tray4 Paper Take-Up Sensor	Paper present	Paper not present
PC123-PF	Upper Limit	Tray4 Lift-Up Sensor	Raised Position	Not raised

6. Mechanical adjustment

6.1 Adjusting the paper reference position

NOTE

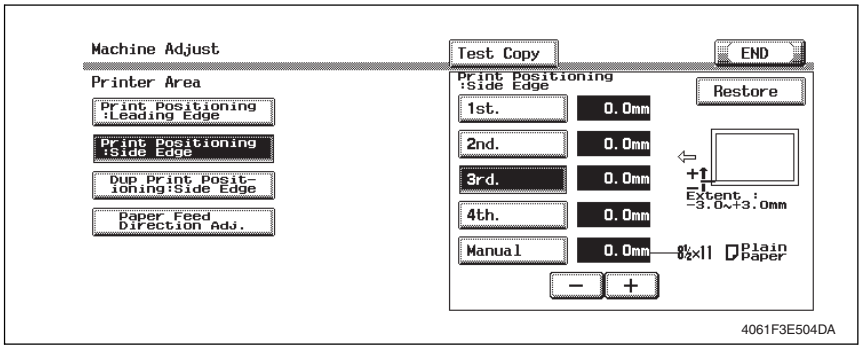
- **Make this adjustment after any of the following procedures has been performed.**
  When the LPH Unit has been replaced.
  When the image on the print is offset in the sub scan direction.
  When a faint image occurs on the leading edge of the image.

6.1.1 Print Positioning: Side Edge

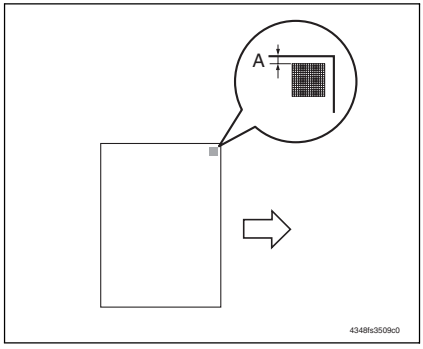
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch “Machine” → “Printer Area.”
3. Touch “Print Positioning: Side Edge” → “3rd.”

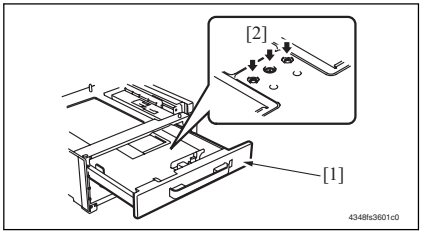


4. Press the Start key to let the machine produce a test pattern.

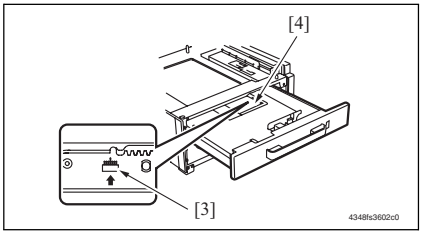


5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



8. Slide out the drawer [1] and unload paper from it.
9. Loosen three screws [2] at the center of the Paper Lifting Plate.

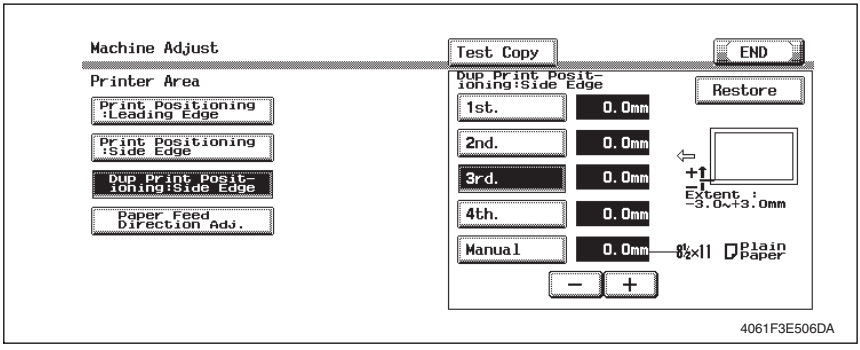


10. Watching the graduations [3] provided in the drawer, move the Edge Guide [4] in the rear.
- If width A is greater than the specified value, move the Edge Guide toward the front.
- If width A is smaller than the specified value, move the Edge Guide toward the rear.

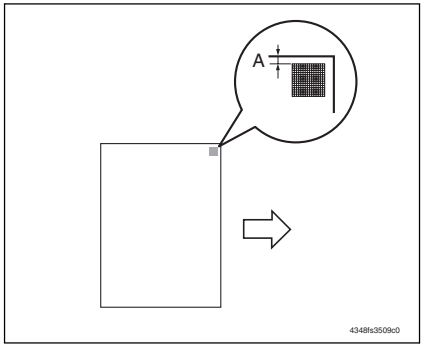
11. Perform another test print and check the reference deviation.
12. Repeat the adjustment until the reference line falls within the specified range.
13. Tighten the adjustment screw.
14. Repeat steps 1 to 15 similarly for the tray4.

6.1.2 Dup Print Positioning: Side Edge

1. Call the Service Mode to the screen.
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.
2. Touch “Machine” → “Printer Area.”
3. Touch “Dup Print Positioning: Side Edge” → “3rd.”



4. Press the Start key to let the machine produce a test pattern.



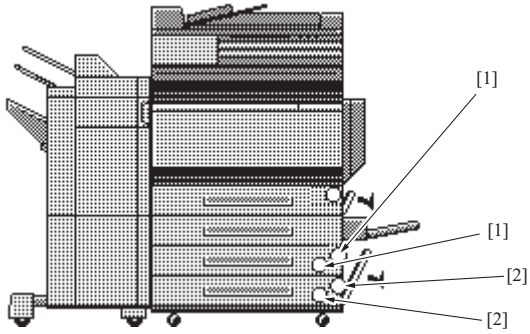
5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.
8. Repeat steps 1 to 7 similarly for the tray4.

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.



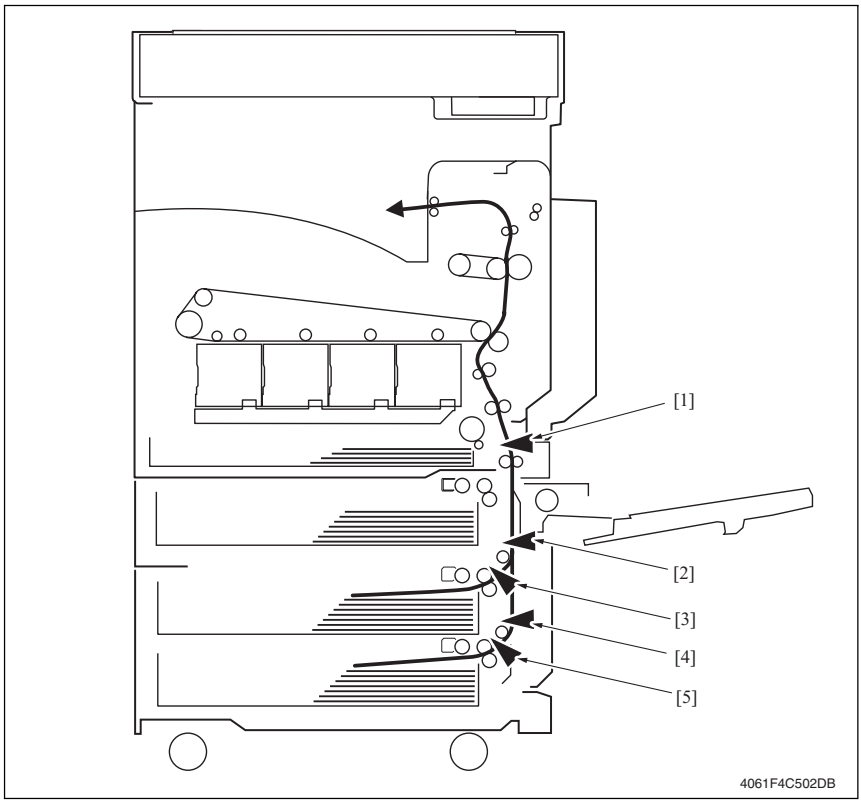
4061F4C501DA

No.	Code	Misfeed location	Misfeed access location	Action
[1]	1301	Tray 3 Paper Take-Up Section	Right Door	☞ 22
	2001	Tray 3 Paper Vertical Transport Section		
[2]	1401	Tray 4 Paper Take-Up Section	Right Door	☞ 23
	2001	Tray 4 Paper Vertical Transport Section		

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Tray2 Vertical Transport Sensor PC108
[2] Tray3 Vertical Transport Sensor PC117-PF
[3] Tray3 Paper Take-Up Sensor PC116-PF
[4] Tray4 Vertical Transport Sensor PC126-PF
[5] Tray4 Paper Take-Up Sensor PC125-PF

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Tray3 Paper Take-Up section/Vertical Transport section misfeed (PC-102/PC-202)

A. Detection timing

Type	Description
Tray3 Paper Take-Up section/Vertical transport section misfeed detection	The leading edge of the paper does not block the Tray3 Vertical Transport Sensor (PC117-PF) even after the set period of time has elapsed after the Tray3 Paper Feed Motor (M122-PF) is energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the Tray3 Vertical Transport Sensor (PC117-PF) has been blocked by a paper.
	The Tray 3 Vertical Transport Sensor (PC117-PF) is not unblocked even after the lapse of a given period of time after PC117-PF has been blocked by a paper.
Tray3 detection of paper remaining	The Tray3 Vertical Transport Sensor (PC117-PF) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray3 Paper Take-Up Sensor (PC116-PF) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Tray3 Paper Take-Up Sensor (PC116-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray2 Vertical Transport Sensor (PC108) Tray3 Paper Feed Motor (M122-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC116-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-8 (ON)	PC202 C-4
3	PC117-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-11 (ON)	PC202 C-4
4	PC108 I/O, sensor check	PWB-Z PJ6Z-11 (ON)	C450 T to U-27
5	M122-PF operation check	—	—
6	PWB-C2 PF replacement	—	—

7.3.3 Tray4 Paper Take-Up section/Vertical Transport section misfeed (PC-202)

A. Detection timing

Type	Description
Tray4 Paper Take-Up section/Vertical transport section misfeed detection	The leading edge of the paper does not block the Tray4 Vertical Transport Sensor (PC126-PF) even after the set period of time has elapsed after the Tray4 Paper Feed Motor (M123-PF) is energized.
	The Tray3 Vertical Transport Sensor (PC117-PF) is not blocked even after the lapse of a given period of time after the Tray4 Vertical Transport Sensor (PC126-PF) has been blocked by a paper.
	The Tray4 Vertical Transport Sensor (PC126-PF) is not unblocked even after the lapse of a given period of time after PC126-PF has been blocked by a paper.
Tray4 detection of paper remaining	The Tray4 Vertical Transport Sensor (PC126-PF) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray4 Paper Take-Up Sensor (PC125-PF) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

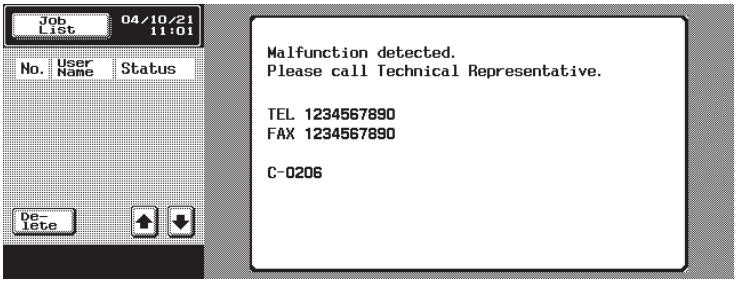
Relevant electrical parts	
Tray4 Paper Take-Up Sensor (PC125-PF) Tray4 Vertical Transport Sensor (PC126-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray4 Paper Feed Motor (M123-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC125-PF I/O, sensor check	PWB-C2 PF PJ10C2 PF-8 (ON)	PC202 G to H-6
3	PC126-PF I/O, sensor check	PWB-C2 PF PJ11C2 PF-2 (ON)	PC202 G to H-6
4	PC117-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-11 (ON)	PC202 C-4
5	M123-PF operation check	PWB-C2 PF PJ9C2 PF-1 to 4	PC202 G to H-6 to 7
6	PWB-C2 PF replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4061F4E504DA

8.2 Trouble code list

Code	Item	Description
C0206	3rd Drawer Lift-Up Failure	• The Lift-Up Sensor is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
C0208	4th Drawer Lift-Up Failure	

8.3 How to reset

- Open and close the Front Door or turn OFF and ON the Main Power Switch.

8.4 Solution

8.4.1 C0206: Tray3 Lift-Up Failure
C0208: Tray4 Lift-Up Failure

Relevant electrical parts	
Lift-Up Motor 1 (M124-PF) Tray4 Lift-Up Motor (M125-PF) Tray3 Lift-Up Upper Limit Sensor (PC114-PF) Tray4 Lift-Up Sensor (PC123-PF)	Main Control Board (PWB-C2 PF) main unit Control Board (PWB-MC) main unit DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Check the PU1 connector for proper connection, and correct as necessary.	—	—
4	PC114-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-3 (ON)	PC202 C-3
5	PC123-PF I/O, sensor check	PWB-C2 PF PJ10C2 PF-3 (ON)	PC202 G to H-5
6	M124-PF operation check	PWB-C2 PF PJ4C2 PF-4 to 5	PC202 C-5
7	M125-PF operation check	PWB-C2 PF PJ8C2 PF-12 to 13	PC202 G-3 to 4
8	PWB-C2 PF replacement	—	—
9	PWB-MC replacement	—	—
10	PU1 replacement	—	—

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-402

2005.03
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specification 1
1.1 Type 1
1.2 Paper type 1
1.3 Machine specifications 1
1.4 Operating environment 1

Maintenance

2. Periodical check 3
2.1 Maintenance procedure (Periodical check parts) 3
2.1.1 Replacing the Separation Roller Assy 3
2.1.2 Replacing the Paper Take-up Roller 4
2.1.3 Replacing the Pick-up Roller 6
3. Other 8
3.1 Disassembly/Adjustment prohibited items 8
3.2 Disassembly/Assembly/Cleaning list (Other parts) 9
3.2.1 Disassembly/Assembly parts list 9
3.2.2 Cleaning parts list 9
3.3 Disassembly/Assembly procedure 10
3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover 10
3.3.2 Rear Cover 10
3.3.3 Drawer 11
3.3.4 Wire 11
3.4 Cleaning procedure 14
3.4.1 Separation Roller 14
3.4.2 Paper Take-up Roller 14
3.4.3 Pick-up Roller 14
3.4.4 Vertical Transport Roller 15

Adjustment/Setting

4. How to use the adjustment section 17
5. Sensor check 18
5.1 Check procedure 18
5.2 Sensor check list 18
5.2.1 Sensor check screen 18
5.2.2 Sensor check list 19

6. Mechanical adjustment 20
6.1 Adjusting the paper reference position 20
6.1.1 Print Positioning: Side Edge 20
6.1.2 Dup Print Positioning: Side Edge 22
6.2 Shifter movement timing belt adjustment 22

Troubleshooting

7. Jam Display 25
7.1 Misfeed display 25
7.1.1 Misfeed display resetting procedure 25
7.2 Sensor layout 26
7.3 Solution 27
7.3.1 Initial check items 27
7.3.2 LCT Paper Take-Up section/Vertical Transport section misfeed 28
8. Trouble code 29
8.1 Trouble code display 29
8.2 Trouble code list 30
8.2.1 How to reset 31
8.3 Solution 32
8.3.1 C0001: LCT communication error 32
8.3.2 C0209: LCT Elevator Motor Failure 32
8.3.3 C0210: LCT Lift Failure 33
8.3.4 C0212: LCT Lock Release Failure 33
8.3.5 C0213: LCT Shift Gate Operation Failure 34
8.3.6 C0214: LCT Shift Failure 34
8.3.7 C0215: LCT Shift Motor Failure 35

General

1. Product specification

1.1 Type

Name	Large Capacity Cabinet
Type	Front loading type LCC
Installation	Desk type
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	56 to 256 g/m^2 (15 to 68 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Paper Size	A4, 8.5 × 11	
Capacity	2500 sheets (80 g/m^2, 21.25 lb)	

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	45 W or less
Dimensions	570 mm (W) × 263 mm (H) × 548 mm (D) 22.5 inch (W) × 10.25 inch (H) × 21.5 inch (D)
Weight	25.9 kg (57 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

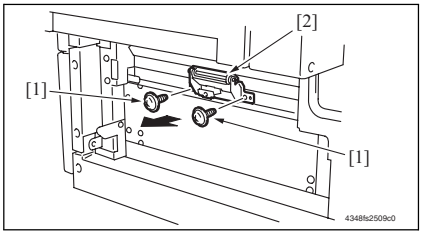
Blank Page

Maintenance

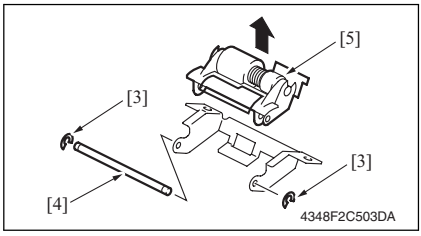
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

2.1.1 Replacing the Separation Roller Assy



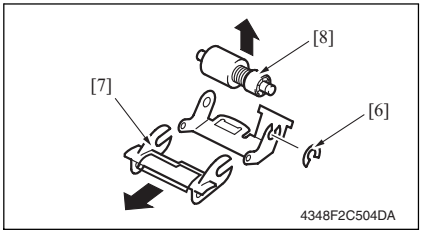
1. Remove the Right Door.
☞ 10
2. Remove two screws [1] and remove the Paper Separation Roller Mounting Bracket Assy [2].



3. Remove two C-rings [3] and the shaft [4], and remove the Paper Separation Roller fixing Bracket Assy [5].

NOTE

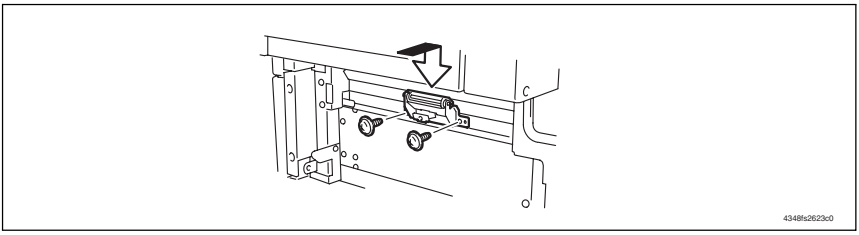
- **Be careful not to lose spring at this time.**



4. Remove the C-ring [6], the Guide [7], and remove the Separation Roller Assy [8].

NOTE

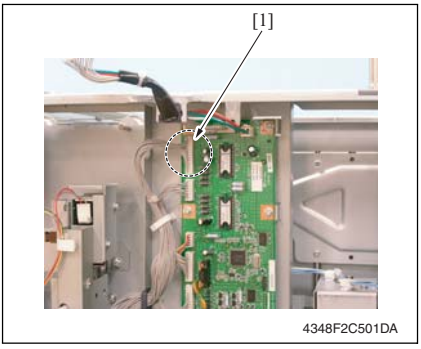
- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.2 Replacing the Paper Take-up Roller



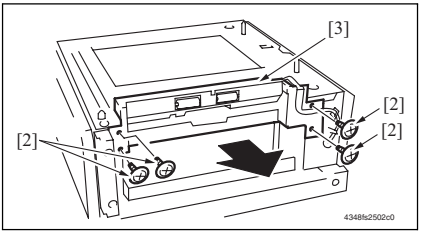
1. Remove the Rear Cover and the Rear Right Cover.

☞ 10

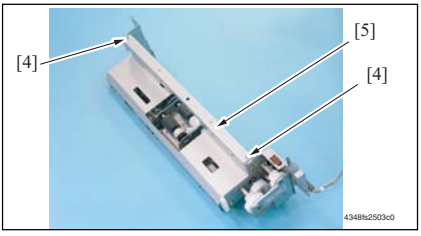
2. Remove the Tray3.
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 3 “Separation Roller Assy.”

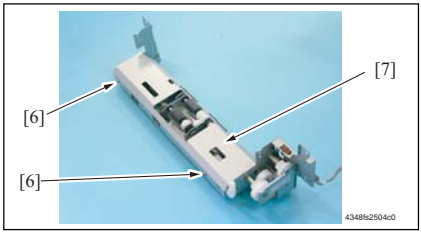
4. Disconnect the connector [1] from the Main Control Board.



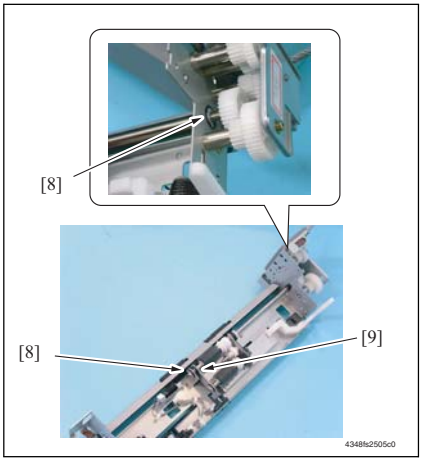
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



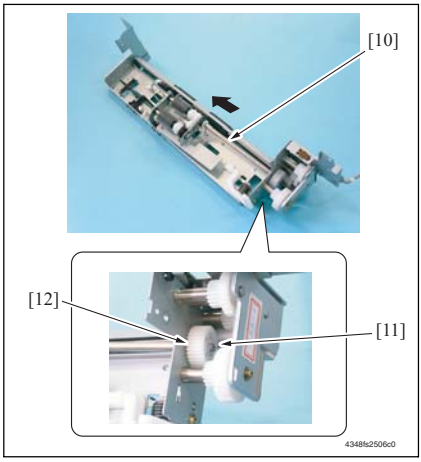
6. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].

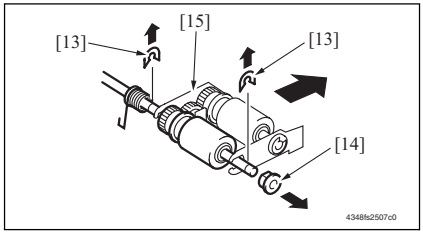


8. Remove two C-rings [8] and remove the bushing [9].

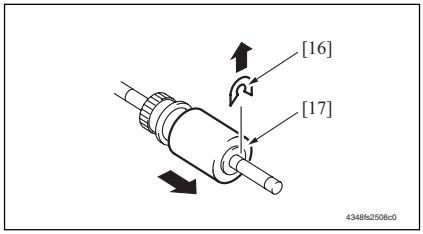


9. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].

10. Remove the shaft Assy [10].



11. Remove two E-rings [13] and the bushing [14], and remove the Pick-up Roller Fixing Bracket Assy [15].

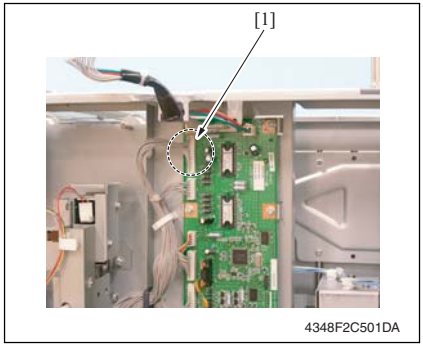


12. Remove the C-ring [16] and remove the Paper Take-up Roller [17].

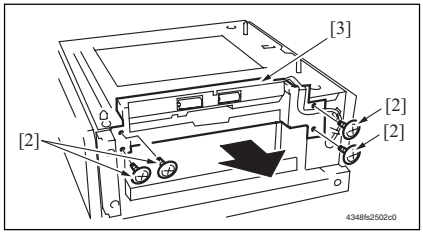
NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

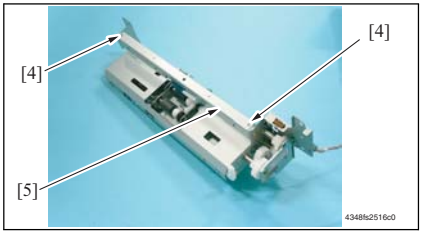
2.1.3 Replacing the Pick-up Roller



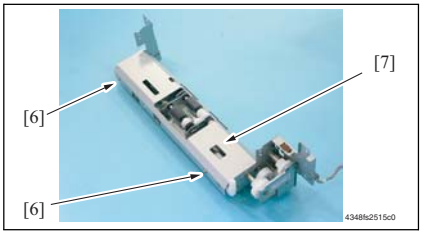
1. Remove the Rear Cover and the Rear Right Cover.
☞ 10
2. Remove the Tray3.
3. Remove the Paper Separation Roller Mounting Bracket Assy.
☞ See the procedures 1 to 2 in page 3 “Separation Roller Assy.”
4. Disconnect the connector [1] from the Main Control Board.



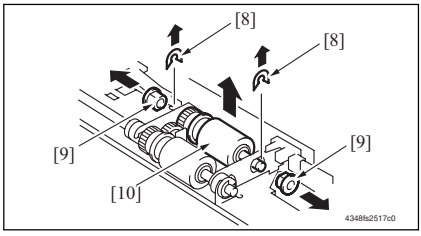
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



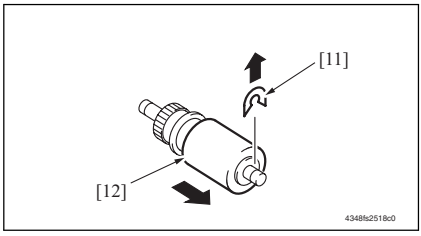
6. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].



8. Remove two C-rings [8], two bushings [9], and the Pick-up Roller Assy [10].



9. Remove the C-ring [11] and remove the Pick-up Roller [12].

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

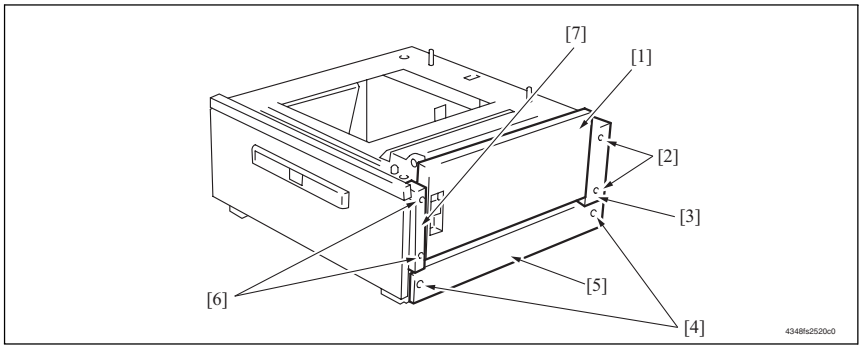
No	Section	Part name	Ref. page
1	Exterior Parts	Right Door	☞ 10
2		Rear Right Cover	☞ 10
3		Lower Right Cover	☞ 10
4		Front Right Cover	☞ 10
5		Rear Cover	☞ 10
6	Unit	Drawer	☞ 10
7		Wire	☞ 10

3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Paper feed section	Separation Roller	☞ 14
2		Paper Take-up Roller	☞ 14
3		Pick-up Roller	☞ 14
4	Transport section	Vertical Transport Roller	☞ 15

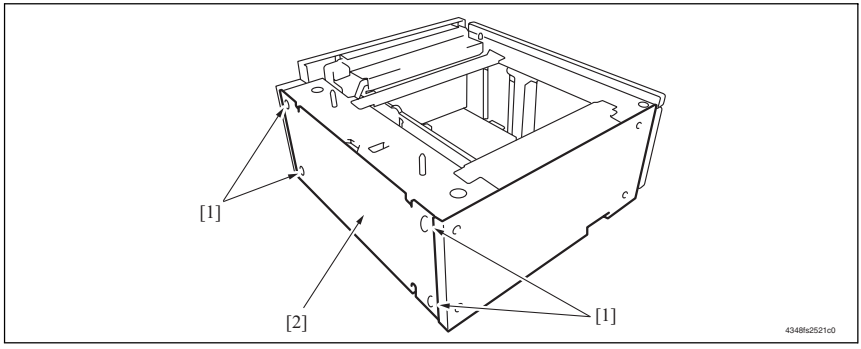
3.3 Disassembly/Assembly procedure

3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



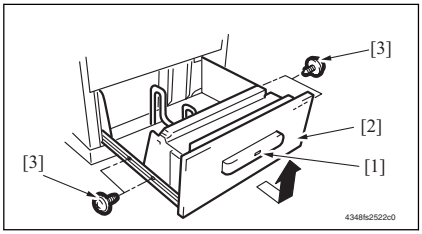
1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

3.3.2 Rear Cover

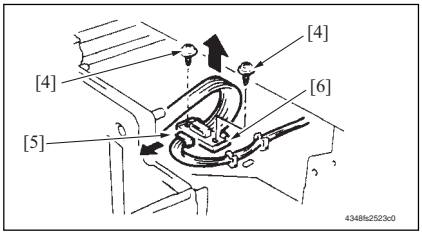


1. Remove four screws [1] and remove the Rear Cover [2].

3.3.3 Drawer



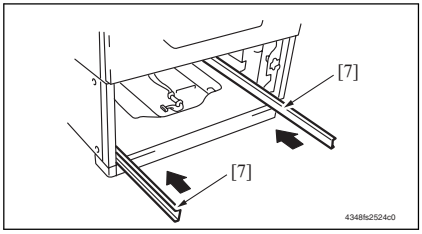
1. Press the Drawer Eject Button [1] and slide out the drawer [2].
2. Remove the paper.
3. Remove four screws [3] and slide out the drawer [2].



4. Remove two screws [4], the connector [5], and remove the Connector Board [6].
5. Remove the Drawer.

NOTE

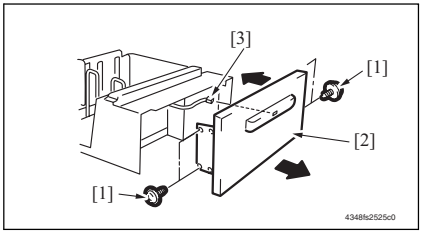
- **When removing the Connector Board, use care not to drop the drawer from the guide rail.**



NOTE

- **To prevent injuries, press the guide rail [7] inside the machine.**

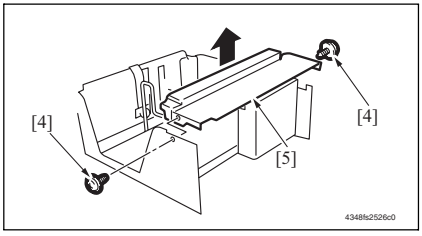
3.3.4 Wire



1. Remove the Drawer.

☞ 11

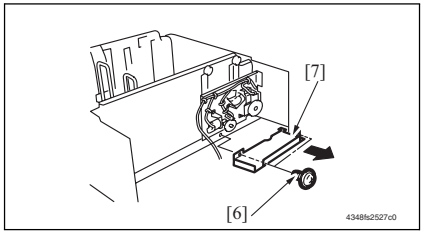
2. Remove four screws [1] and remove the Front Cover Assy [2].
3. Unplug the connector [3].



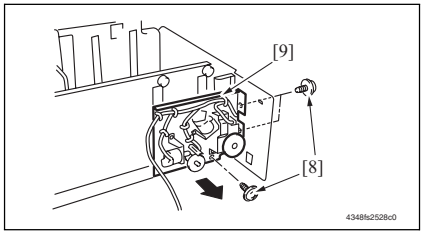
4. Remove two screws [4] and the Inner Cover Assy [5].

NOTE

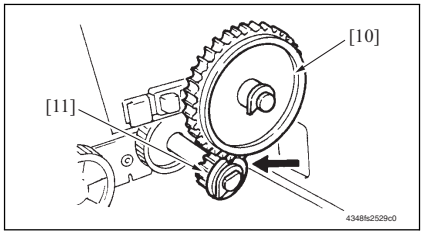
- **Do not peel off pulley protective mylar sheet.**



5. Remove two screws [6] and remove the Driver Cover [7].

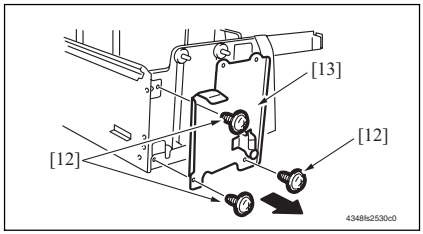


6. Remove three screws [8] and remove the Driver Mounting Plate Assy [9].

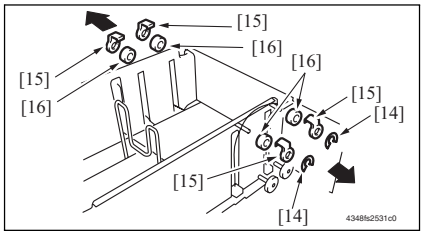


NOTE

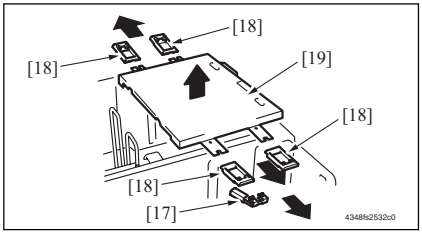
- **When assembling, be sure to engage rib of gear 1 [10] with convex section of gear 2 [11].**



7. Remove three screws [12] and remove the Reinforcement Bracket Assy [13].



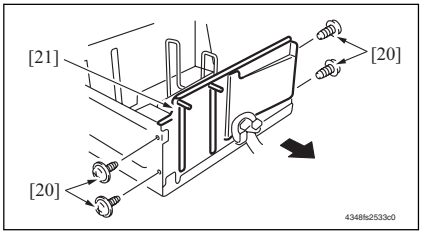
8. Remove two C-clips [14].
9. Remove four Pulley Covers [15].
10. Unhook four pulleys [16].



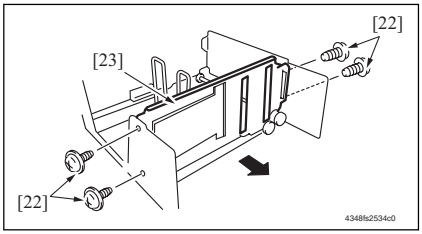
11. Remove the Ground Plate [17].
12. Remove four Cable Holding Jigs [18] and remove the Main Drawer [19].

NOTE

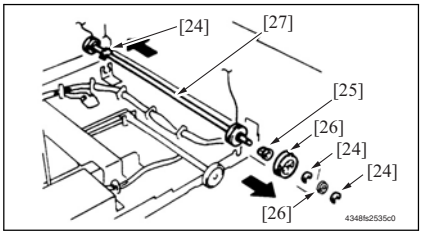
- **Use care not to bend the wires.**



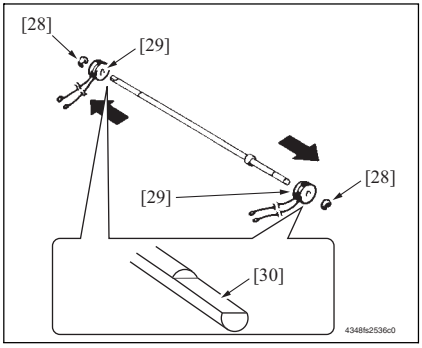
13. Remove four screws [20] and remove the Rear Trailing Edge Assy [21].



14. Remove four screws [22] and remove the Front Trailing Edge Assy [23].



15. Remove three C-rings [24], the bushing [25], and two gears [26].
16. Remove the Take-up Drum Assy [27].



17. Remove two C-rings [28]and the Take-up Drum [29].

NOTES

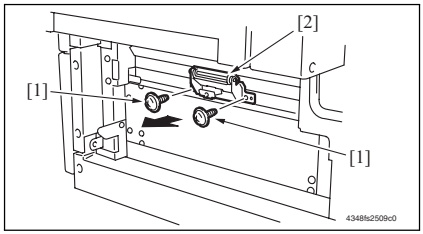
- **Take care not to lose fixing pins.**
- **When reinstalling the Take-up Drum, check that the direction of the wire coming from both Take-up Drums are the same.**
- **Install so that cut parts [30] at both ends of shaft face up.**

3.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

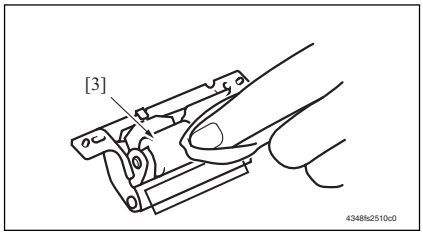
3.4.1 Separation Roller



1. Remove the Right Door.

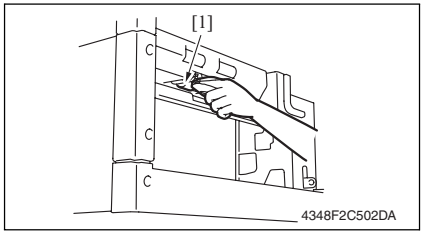
☞ 10

2. Remove two screws [1] and remove the Paper Separation Roller Mounting Bracket Assy [2].



3. Using a soft cloth dampened with alcohol, wipe the Separation Roller [3] clean of dirt.

3.4.2 Paper Take-up Roller

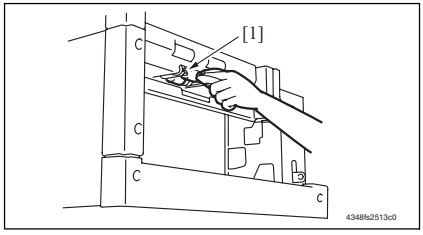


1. Remove the Tray3.
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 14 “Cleaning of Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-Up Roller [1] clean of dirt.

3.4.3 Pick-up Roller

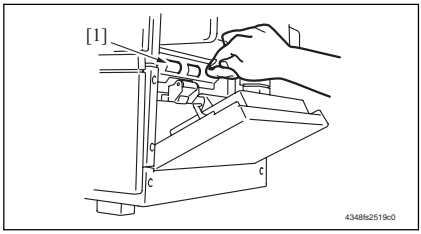


1. Remove the Tray3.
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 14 “Cleaning of Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.

3.4.4 Vertical Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

Blank Page

Adjustment/Setting

4. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

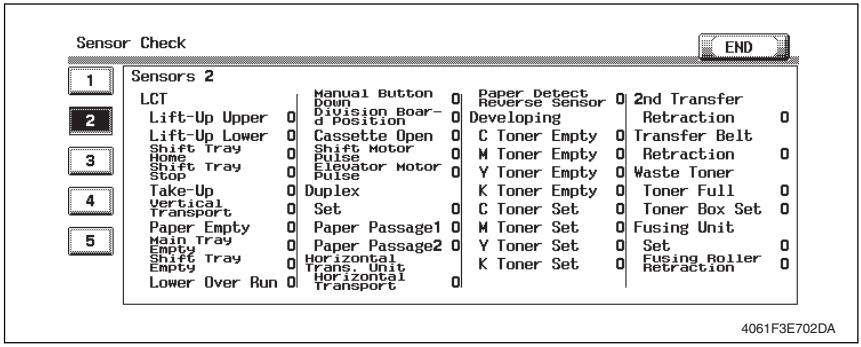
2. Touch the “State Confirmation” key.

3. Touch the “Sensor Check” key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



4061F3E702DA

5.2.2 Sensor check list

A. Sensor monitor 2

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC4-LCT	Lift-Up Upper	Tray Upper Limit Sensor	Raised Position	Not raised
PC13-LCT	Lift-Up Lower	Tray Lower Position Sensor	Lowered Position	Not lowered
PC12-LCT	Shift Tray Home	Shifter Home Position Sensor	At home	Not at home
PC11-LCT	Shift Tray Stop	Shifter Return Position Sensor	Return position	Not at return position
PC1-LCT	Take-Up	Paper Feed Sensor	Paper present	Paper not present
PC2-LCT	Vertical Transport	LCT Vertical Transport Sensor	Paper present	Paper not present
PWB-E LCT	Paper Empty	Paper Empty Board	Paper present	Paper not present
PC3-LCT	Main Tray Empty	Upper Paper Empty Sensor	Paper present	Paper not present
PC9-LCT	Shift Tray Empty	Shift Tray Paper Empty Sensor	Paper present	Paper not present
PC7-LCT	Lower Over Run	Lower Limit Sensor	malfunction	operational
UN1-LCT	Manual Button Down	Paper Descent Key	ON	OFF
PC14-LCT	Division Board Position	Shift Gate Home Position Sensor	At home	Not at home
PC6-LCT	Cassette Open	Tray Set Sensor	Set	Out of position
PC8-LCT	Shift Motor Pulse	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT	Elevator Motor Pulse	Elevator Motor Pulse Sensor	Blocked	Unblocked

6. Mechanical adjustment

6.1 Adjusting the paper reference position

NOTE

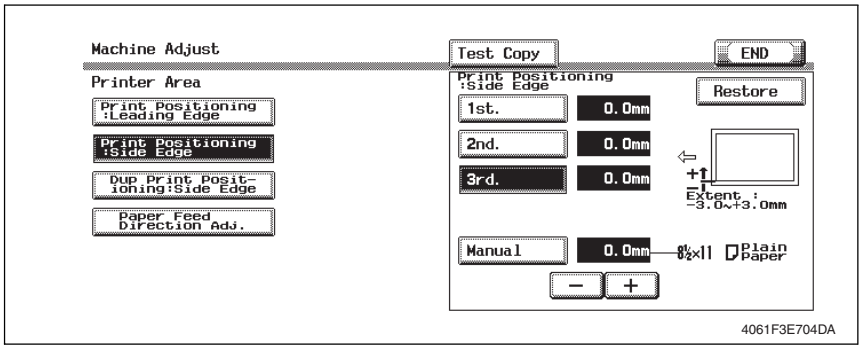
- **Make this adjustment after any of the following procedures has been performed.**
  When the LPH Unit has been replaced.
  When the image on the print is offset in the sub scan direction.
  When a faint image occurs on the leading edge of the image.

6.1.1 Print Positioning: Side Edge

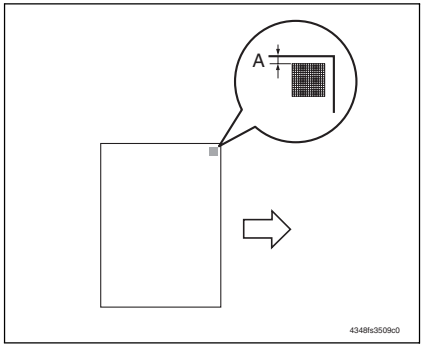
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch “Machine” → “Printer Area.”
3. Touch “Print Positioning: Side Edge” → “3rd.”

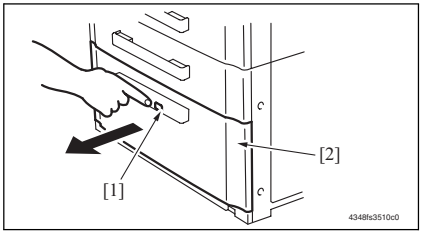


4. Press the Start key to let the machine produce a test pattern.

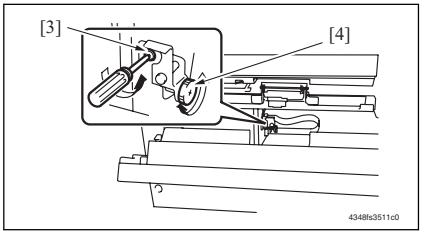


5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



8. Press the Drawer Release button [1] and then slide out the drawer [2] from the Paper Feed Cabinet.

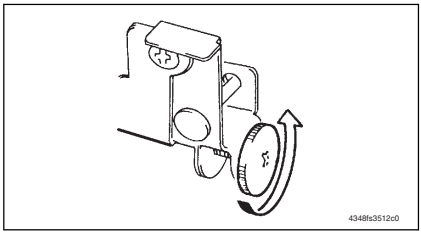


9. Open the Right Door.

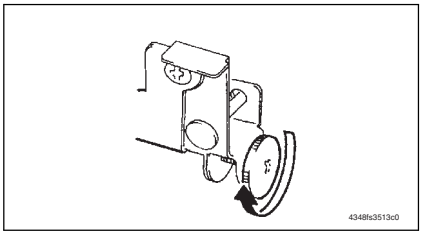
10. Loosen the adjustment screw [3] and turn screw D [4] to make the adjustment.

NOTE

- **Do not damage the passage surface of the Right Door.**



- If width A is greater than the specified value
  Turn screw D counterclockwise.



- If width A is smaller than the specified value
  Turn screw D clockwise.

11. Perform another test print and check the reference deviation.

12. Repeat the adjustment until the reference line falls within the specified range.

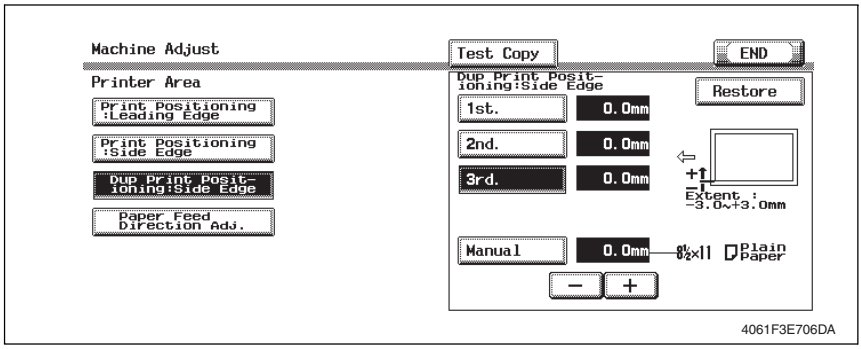
13. Tighten the adjustment screw.

6.1.2 Dup Print Positioning: Side Edge

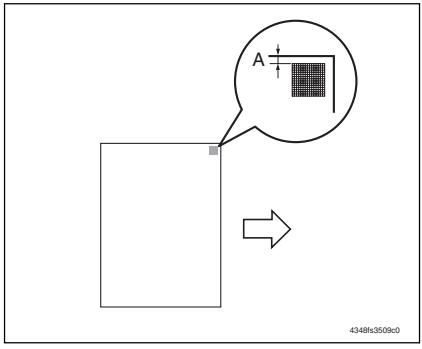
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch “Machine” → “Printer Area.”
3. Touch “Dup Print Positioning: Side Edge” → “3rd.”

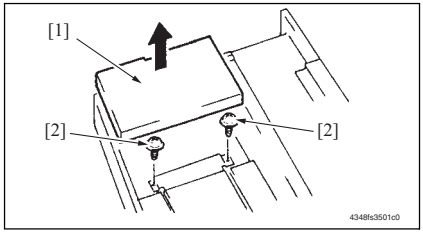


4. Press the Start key to let the machine produce a test pattern.



5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

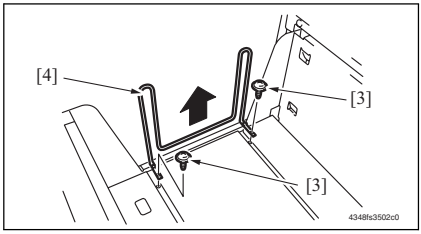
6.2 Shifter movement timing belt adjustment



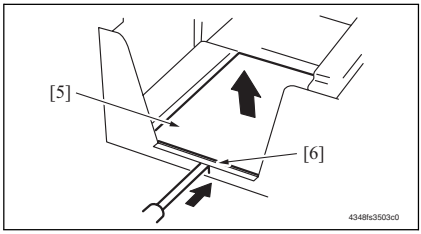
1. Slide out the Drawer and remove it.
2. Lift the Main Drawer [1], and remove two screws [2] fixing the Shift Tray.

NOTE

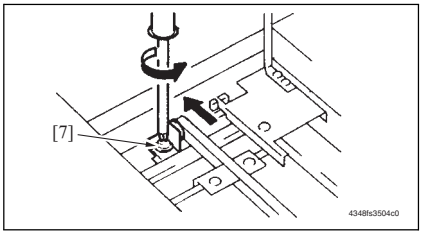
- **When reinstalling, use caution because the wire of the Main Drawer comes off easily.**



3. Remove two screws [3] and remove the Shifter [4].



4. Push the tab [6] of the Shift Tray [5] as shown on the left and release the lock.
5. Remove the Shift Tray [5].



6. Loosen the screw [7] fixing the Tension Pulley Assy as shown to the left and move it in the direction of the arrow.
7. After moving the Shifter, tighten the fixing screw [7].

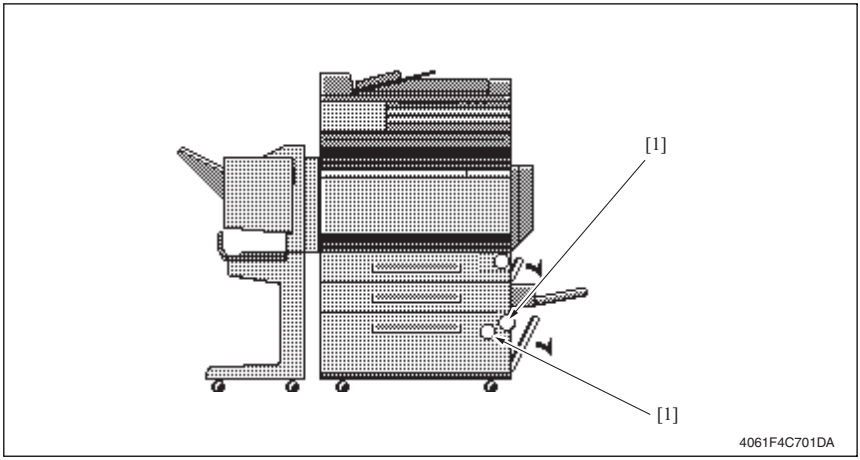
Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

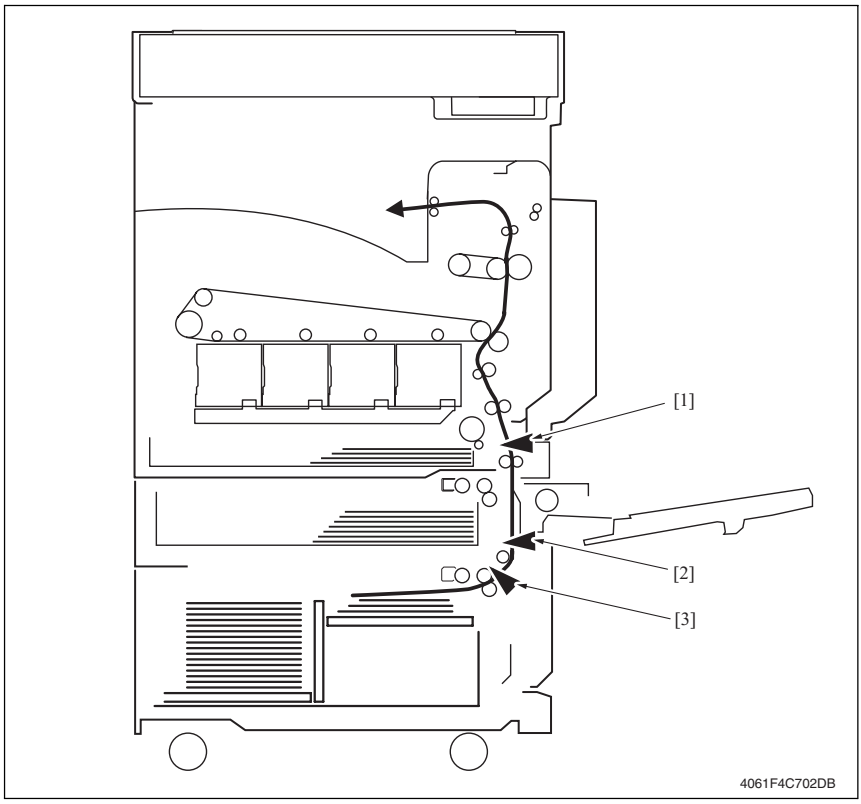


No.	Code	Misfeed location	Misfeed access location	Action
[1]	1501	LCT Paper Take-Up section	Right Door	☞ 28
	2001	LCT Paper Vertical Transport Section		

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Tray2 Vertical Transport Sensor PC108
[2] LCT Vertical Transport Sensor PC2-LCT
[3] Paper Feed Sensor PC1-LCT

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 LCT Paper Take-Up section/Vertical Transport section misfeed

A. Detection timing

Type	Description
LCT Paper Take-Up section/Vertical transport section misfeed detection	The leading edge of the paper does not block the Paper Feed Sensor (PC1-LCT) or the LCT Vertical Transport Sensor (PC2-LCT) even after the set period of time has elapsed after the Paper Feed Motor (M1-LCT) is energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the LCT Vertical Transport Sensor (PC2-LCT) has been blocked by a paper.
	The Paper Feed Sensor (PC1-LCT) is not unblocked even after the lapse of a given period of time after PC1-LCT has been blocked by a paper.
	The LCT Vertical Transport Sensor (PC2-LCT) is not unblocked even after the lapse of a given period of time after PC2-LCT has been blocked by a paper.
LCT detection of paper remaining	The LCT Vertical Transport Sensor (PC2-LCT) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Paper Feed Sensor (PC1-LCT) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

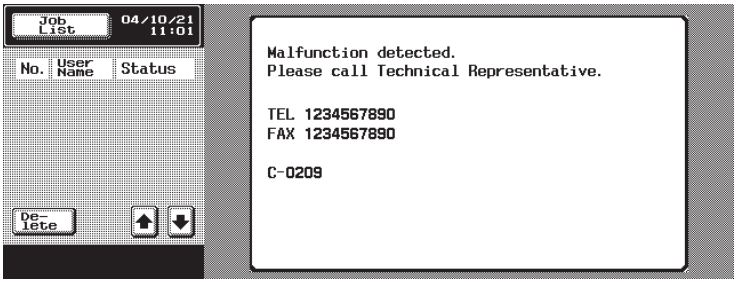
Relevant electrical parts	
Paper Feed Sensor (PC1-LCT) LCT Vertical Transport Sensor (PC2-LCT) Tray2 Vertical Transport Sensor (PC108) Paper Feed Motor (M1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-2 (ON)	PC-402 C-8
3	PC2-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-5 (ON)	PC-402 C-7
4	PC108 I/O, sensor check	PWB-Z PJ6Z-11 (ON)	C450 T to U-27
5	M1-LCT operation check	PWB-C1 LCT PJ6C1 LCT-1 to 4	PC-402 C-8
6	PWB-C1 LCT replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4061F4E704DA

8.2 Trouble code list

Code	Item	Description
C0001	LCT communication error	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.
C0209	LCT Elevator Motor Failure	• The Elevator Motor Pulse Sensor (PC10-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCT) is turning backward/forward (raise/lower).
C0210	LCT Lift Failure	• The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Tray Lower Position Sensor (PC13-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operating. • The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set period of time has elapsed after the paper lift-down operation began. • The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Lower Limit Sensor (PC7-LCT) is blocked while the paper lift-down operating.
C0212	LCT Lock Release Failure	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCT) is energized after the lowering operation is finished.
C0213	LCT Shift Gate Operation Failure	• The Shift Gate Home Position Sensor (PC14-LCT) cannot be set to L even after the set period of time has elapsed after the operation of the Shift Gate Motor (M3-LCT) began with the Shift Gate Home Position Sensor (PC14-LCT) set to L.

Code	Item	Description
C0214	LCT Shift Failure	• The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set period of time has elapsed after the shift operation began (shift to the right). • The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set period of time has elapsed after the return operation began (shift to the left). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left). • The Shifter Return Position Sensor (PC11-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left).
C0215	LCT Shift Motor Failure	• The Shift Motor Pulse Sensor (PC8-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Shift Motor (M4-LCT) is turning backward/forward (raise/lower).

8.2.1 How to reset

- Open and close the Front Door or turn OFF and ON the Main Power Switch.

8.3 Solution

8.3.1 C0001: LCT communication error

Relevant electrical parts	
Main Control Board (PWB-C1 LCT)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn the main unit off, then on again.	—	—
2	PWB-C1 LCT replacement	—	—

8.3.2 C0209: LCT Elevator Motor Failure

Relevant electrical parts	
Elevator Motor (M5-LCT) Elevator Motor Pulse Sensor (PC10-LCT)	Interface Board (PWB-H LCT) Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC10-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-5 (ON)	PC-402 G to H-5
4	M5-LCT operation check	PWB-C1 LCT PJ2H<B> LCT-6 to 7	PC-402 G to H-6
5	PWB-H LCT replacement	—	—
6	PWB-C1 LCT replacement	—	—

8.3.3 C0210: LCT Lift Failure

Relevant electrical parts	
Tray Upper Limit Sensor (PC4-LCT) Tray Lower Position Sensor (PC13-LCT) Elevator Motor Pulse Sensor (PC10-LCT) Lower Limit Sensor (PC7-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PC4-LCT I/O, sensor check	PWB-C1 LCT PJ5C LCT-15 (ON)	PC-402 C-7
3	PC13-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-9 (ON)	PC-402 G to H-3
4	PC10-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-5 (ON)	PC-402 G to H-5
5	PC7-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-2 (ON)	PC-402 G to H-5 to 6
6	PWB-C1 LCT replacement	—	—

8.3.4 C0212: LCT Lock Release Failure

Relevant electrical parts	
Tray Lock Solenoid (SL1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the SL1-LCT connector for proper connection, and correct as necessary.	—	—
2	SL1-LCT operation check	PWB-C1 LCT PJ7C LCT-4 (ON)	PC-402 C-8
3	PWB-C1 LCT replacement	—	—

8.3.5 C0213: LCT Shift Gate Operation Failure

Relevant electrical parts	
Shift Gate Home Position Sensor (PC14-LCT) Shift Gate Motor (M3-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC14-LCT I/O, sensor check	PWB-C1 LCT PJ2H<B> LCT-1 (ON)	PC-402 G to H-6
4	M3-LCT operation check	PWB-C1 LCT PJ2H<B> LCT-2 to 3	PC-402 G to H-6
5	PWB-C1 LCT replacement	—	—

8.3.6 C0214: LCT Shift Failure

Relevant electrical parts	
Shift Motor Pulse Sensor (PC8-LCT) Shifter Return Position Sensor (PC11-LCT) Shifter Home Position Sensor (PC12-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PC8-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-3 (ON)	PC-402 G to H-5
3	PC11-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-7 (ON)	PC-402 G to H-4
4	PC12-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-8 (ON)	PC-402 G to H-4
5	PWB-C1 LCT replacement	—	—

8.3.7 C0215: LCT Shift Motor Failure

Relevant electrical parts	
Shift Motor (M4-LCT) Shift Motor Pulse Sensor (PC8-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC8-LCT I/O, sensor check	PWB-C1 LCT PJ2H<A> LCT-3 (ON)	PC-402 G to H-5
4	M4-LCT operation check	PWB-C1 LCT PJ2H<B> LCT-4 to 5	PC-402 G to H-6
5	PWB-C1 LCT replacement	—	—

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-507

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specification 1
1.1 Type 1
1.2 Functions 1
1.3 Paper type 1
1.3.1 Group, Group offset 1
1.3.2 Sort, Sort offset 2
1.3.3 Sort staple/Group staple 2
1.4 Stapling 2
1.5 Sort and staple capacity 3
1.6 Hole Punch 3
1.7 Machine specifications 3
1.8 Operating environment 3

Maintenance

2. Other 5
2.1 Disassembly/Adjustment prohibited items 5
2.2 Disassembly/Assembly list (Other parts) 6
2.3 Disassembly/Assembly procedure 6
2.3.1 Upper Cover/Upper Front Cover/Lower Front Cover/Rear Cover 6
2.3.2 Punch Unit 7
2.3.3 Stapling Unit 8
2.3.4 Job Separator JS-601 (Option) 8

Adjustment/Setting

3. How to use the adjustment section 11
4. Sensor check 12
4.1 Check procedure 12
4.2 Sensor check list 12
4.2.1 Sensor check screen 12
4.2.2 Sensor check list 12
5. Mechanical adjustment 14
5.1 Check/Adjustment of the Punch Hole positions 14
5.1.1 Checking the punch hole position 14
5.1.2 Adjustment of the punch hole position 14
5.2 Adjustment of the solenoids 15

5.2.1 Adjustment of the Upper / Lower Entrance Switching Solenoid (SL1-FN).. 15
5.2.2 Adjustment of the 1st Tray Entrance Selecting Solenoid (SL2-FN) 15
5.2.3 Adjustment of the 3rd Entrance Switching Solenoid (SL4) 15
5.3 Timing belt tension adjustment..... 15
5.3.1 Adjustment of the Upper Entrance Motor (M4-FN) Timing Belt 15
5.3.2 Adjustment of the Lower Entrance Motor (M2-FN) Timing Belt 16
5.3.3 Adjustment of the Exit Motor (M3-FN) Timing Belt 16
5.4 Adjustment of the Elevator Tray Upper Limit Sensor 17
6. Board switch 18
7. Test mode 19
7.1 Test mode setting procedure 19
7.2 Test mode operations 19
7.3 Operation in each test mode operation 20
7.3.1 Primary paper output tray Exit 20
7.3.2 Secondary paper output tray Exit 20
7.3.3 Third tray exit 20
7.3.4 Finisher Tray Exit 20
7.3.5 Shifting Operation 21
7.3.6 Aligning Plate Operation 21
7.3.7 Stapling Unit CD Movement..... 21
7.3.8 Exit Roller/Rolls Spacing 22
7.3.9 Storage Roller/Rolls Spacing..... 22
7.3.10 Elevator Tray Operation 22
7.3.11 Punch Hole Operation 22
7.3.12 Punch Hole 2/3 Switching..... 23
7.3.13 Sensor Test..... 23

Troubleshooting

8. Jam Display..... 25
8.1 Misfeed display..... 25
8.1.1 Misfeed display resetting procedure 25
8.2 Sensor layout..... 26
8.3 Solution 27
8.3.1 Initial check items 27
8.3.2 Transport section misfeed..... 28
8.3.3 Primary Paper Output Tray Exit section misfeed 29
8.3.4 Third Tray Exit section misfeed (JS-601) 29
8.3.5 Secondary Paper Output Tray Exit section misfeed..... 30

8.3.6 Paper Stack Exit section misfeed 30
8.3.7 Stapler section misfeed 31
8.3.8 Horizontal Transport section misfeed 31
9. Trouble code 32
9.1 Trouble code display 32
9.2 Trouble code list 32
9.2.1 How to reset 33
9.3 Solution 34
9.3.1 C1182: Shift Motor drive malfunctions 34
9.3.2 C1183: Elevator Motor drive malfunctions 34
9.3.3 C1190: CD Aligning Motor drive malfunction 35
9.3.4 C11A1: Exit Roller/Rolls Spacing Motor drive malfunction 35
9.3.5 C11A2: Storage Roller/Rolls Spacing Motor drive malfunction 36
9.3.6 C11B0: Stapling Unit Moving Motor drive malfunction 36
9.3.7 C11B2: Stapling Motor drive malfunction 1 37
9.3.8 C11B3: Stapling Motor drive malfunction 2 37
9.3.9 C11C0: Punch Motor drive malfunction 37
9.3.10 C11C4: Hole Position Selector Motor drive malfunction 38

Blank Page

General

1. Product specification

1.1 Type

Type	Multi Staple Finisher
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge
Option	Job separator (JS-601), Sweden Punch Kit (PK-506)

1.2 Functions

No. of Holes	Metric: 4holes, Inch: 2holes / 3holes,	
Modes	Normal	Group, Sort, Group Offset, Sort Offset, Sort Staple, Group staple
	Punch	Group Punch, Sort Punch, Group Offset Punch, Sort Offset Punch, Sort Staple Punch

1.3 Paper type

- Remove the Finisher off the machine for feeding the long paper.
- The maximum loading capacity shown is for when loading the single type of paper (80g/m^2)

1.3.1 Group, Group offset

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper	B5R/B5 to A3 Wide 5.5 × 8.5R/ 5.5 × 8.5 to 13 × 19	60 to 90 g/m^2 16 to 24 lb	250 sheets	1st paper exit tray	-
Thick paper		60 to 256 g/m^2 16 to 68 lb	20 sheets		
OHP Film					
Translucent paper					
Envelope					
Label paper					
Letterhead					

1.3.2 Sort, Sort offset

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper Thick paper	B5R/B5 to A3 Wide 7.25 × 10.5R/ 7.25 × 10.5 to 13 ×19	60 to 209 g/m^2 16 to 55.5 lb	3,000 sheets (A4R, 8.5 × 11R or smaller); 1.500 sheets (B4, 8.5 × 14 or larger)	2nd paper exit tray	-

1.3.3 Sort staple/Group staple

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper	B5R/B5 to A3 7.25 × 10.5R/ 7.25 × 10.5 to 11 × 17	60 to 90 g/m^2 16 to 24 lb *1	3,000 sheets (A4R, 8.5 × 11R or smaller); 1,500 sheets (B4, 8.5 × 14 or larger)	2nd paper exit tray	50 sheets *2, *3

*1 : Cover Mode - 91 to 209 g/m^2, 24.25 to 55.5 lb.
*2 : The number of Sheets to be Stapled is limited for high-density images.
(Color Wise 3: 20 sheets x 20 sets)
*3 : 35 sheets when using Color Copy 90 paper.

1.4 Stapling

Staple Filling Mode	Dedicated Staple Cartridge Mode (5,000 staples)	
Staple Detection	Available (Nearly Empty: 20 remaining staples)	
Stapling Position *1	Rear: Diagonal 45 ° 1 point	A4, A3 8.5 × 11, 11× 17
	Front: Diagonal 45 ° 1 point	
	Rear: Diagonal 28 ° 1 point	B5, B4
	Front: Diagonal 28 ° 1 point	
	Rear: Parallel 1 point	A4R, A5R 8.5 × 11R, 8.5 × 14
	Front: Parallel 1 point	
	Side: Parallel 2 points	A4, A4R, A3, B5, B5R, B4 8.5 × 11, 8.5 × 11R, 8.5 × 14, 11× 17
Manual Staple	None	

*1 : For 1 point stapling, adjust it in parallel or diagonal according to the length in CD direction.
Parallel: CD direction 182 to 216 mm, 7.25 × 8.5
Diagonal: CD direction 216 to 297 mm, 8.5 × 11.75

1.5 Sort and staple capacity

- (Reference: Actual value) Determined by number of Sets or number of Sheets based on number of bindings.

A. Number of stacked paper

No. of Sheets to be Stapled	No. of Sets	No. of Sheets
2 pages	100 sets	200 Sheets
3 to 5 pages	80 sets	400 Sheets
6 to 10 pages	60 sets	600 Sheets
11 to 20 pages	40 sets	800 Sheets
21 to 30 pages	60 sets	1800 Sheets
31 to 40 pages	60 sets	2400 Sheets
41 to 50 pages	60 sets	3000 Sheets

1.6 Hole Punch

No. of Holes	Metric: 4holes, Inch: 2holes / 3holes
Punch dust full detection	non

1.7 Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	63 W or less
Dimensions	538 mm (W) × 978 mm (H) × 637 mm (D) 21.25 inch (W) × 38.5 inch (H) × 25 inch (D)
Weight	39.2 kg (86.5 lb)

1.8 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

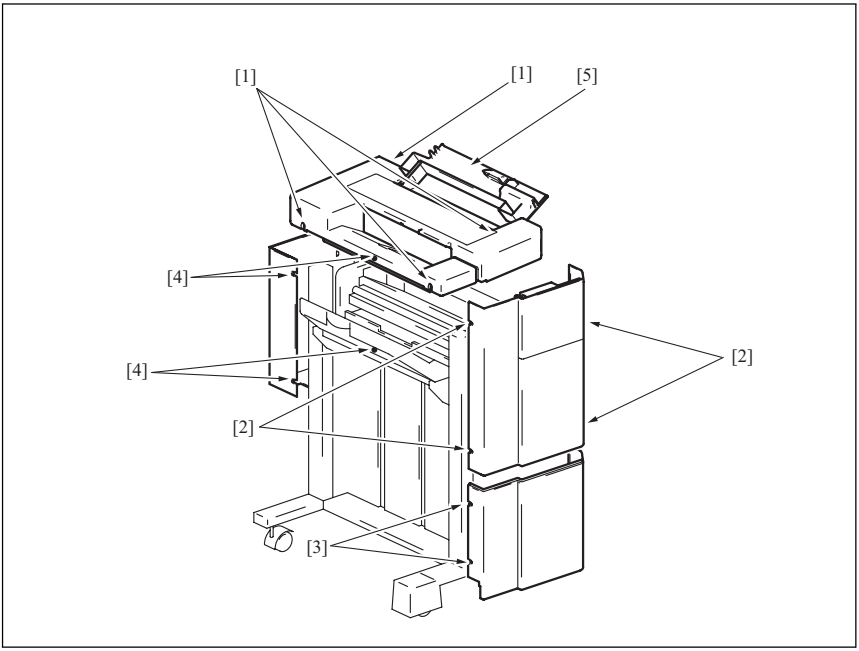
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Upper Cover	☞ 6
2		Upper Front Cover	☞ 6
3		Lower Front Cover	☞ 6
4		Rear Cover	☞ 6
5	Unit	Punch Unit	☞ 7
6		Stapling Unit	☞ 8
7	Option	Job Separator JS-601	☞ 8

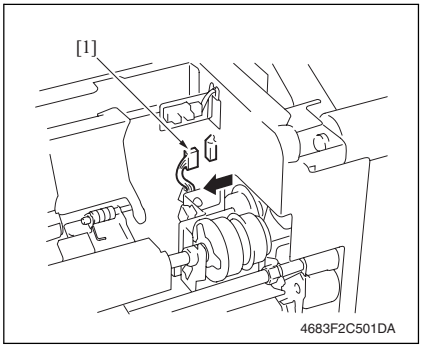
2.3 Disassembly/Assembly procedure

2.3.1 Upper Cover/Upper Front Cover/Lower Front Cover/Rear Cover



1. Open the Upper Door [5]
2. Remove four screws [1] and remove the Upper Cover.
3. Remove four screws [2] and remove the Upper Front Cover.
4. Remove two screws [3] and remove the Lower Front Cover.
5. Remove four screws [4] and remove the Rear Cover.

2.3.2 Punch Unit

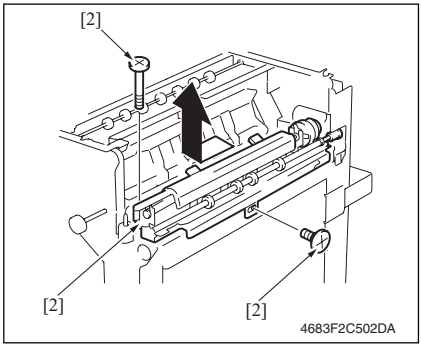


A. Removal Procedure

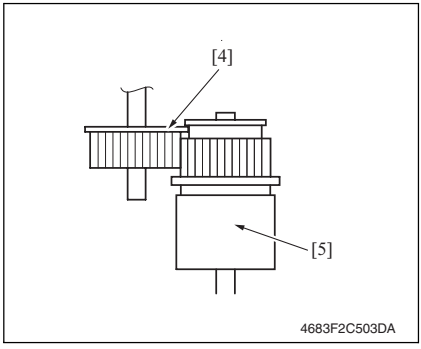
1. Remove the upper cover.

☞ 6

2. Remove the connector [1].



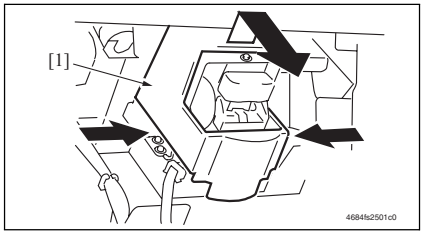
3. Remove two screws [2], and remove the Punch Unit [3].



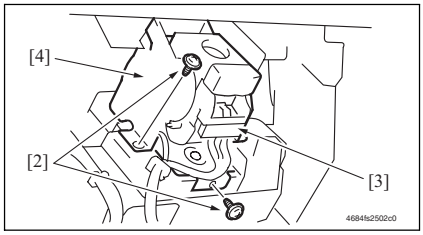
NOTE

- **When installing the Punch Unit, insert the Gear of the Finisher [4] into the Gear of the Punch Unit [5].**

2.3.3 Stapling Unit

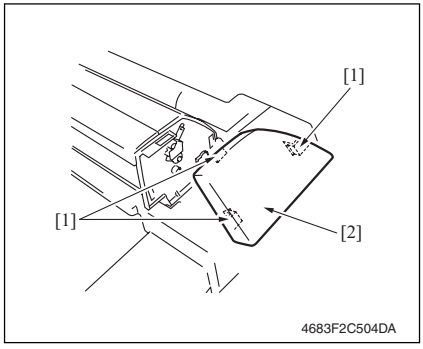


1. Holding both sides of the cover [1], lift the cover up and take it off.

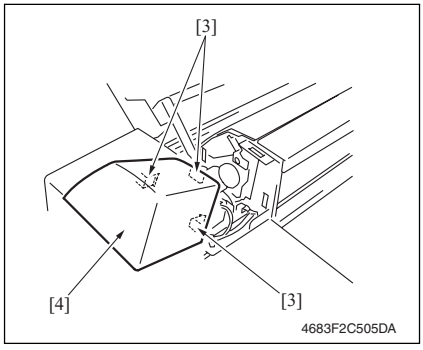


2. Remove two screws [2], unplug the connector [3], and remove the Stapling Unit [4] from the moving cradle.

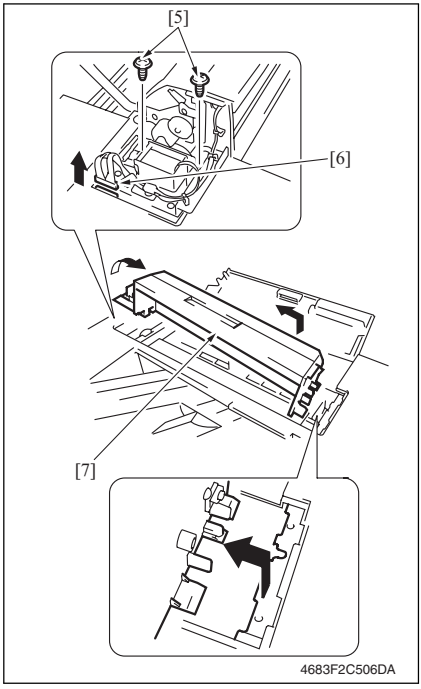
2.3.4 Job Separator JS-601 (Option)



1. Remove three claws [1], and remove the front cover of the Job Separator [2].



2. Remove three claws [3], and remove the rear cover of the Job Separator [4].



3. Remove two screws [5] and the connector [6], and remove the Job Separator [7].

Blank Page

Adjustment/Setting

3. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

4. Sensor check

4.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

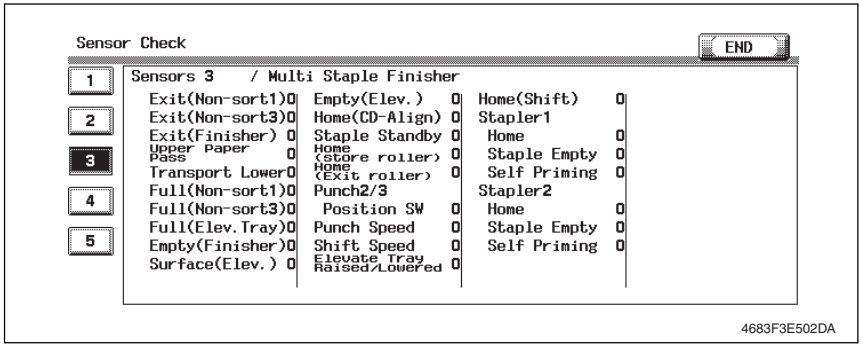
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch the “State Confirmation” key.
3. Touch the “Sensor Check” key.

4.2 Sensor check list

4.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



4.2.2 Sensor check list

A. Sensor monitor 3

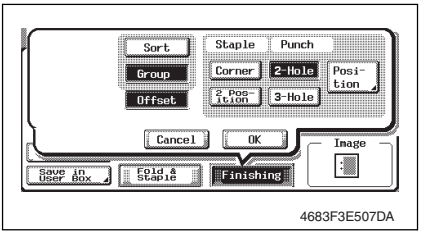
Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC1-FN	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN	Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN	Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN	Upper Paper Pass	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN	Transport Lower	Lower Entrance Sensor	Paper present	Paper not present

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC6-FN	Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN	Full (Non-sort3)	job Tray Full Sensor	Paper present	Paper not present
PC7-FN	Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN	Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN	Surface (Elev.)	Elevator Tray Upper Limit Sensor PQ	Paper present	Paper not present
PC8-FN	Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN	Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN	Staple Stanby	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN	Home (Store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked
PC13-FN	Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
	Punch2/3 Position SW			
	Punch Speed			
PC11-FN	Shift Speed	Shift Motor Pulse Sensor	Unblocked	Blocked
S2-FN S3-FN	Elevate Tray Raised/ Lowered	Elevator Tray Upper Limit Switch Elevator Tray Lower Limit Switch	ON	OFF
PC10-FN	Home (Shift)	Shift Home Position Sensor	Blocked	Unblocked
	Stapler 1			
-	Home	Staple Home 1	Unblocked	Blocked
-	Staple Empty	Staple Empty 1	Unblocked	Blocked
-	Self Priming	Staple Self Priming 1	Unblocked	Blocked
	Stapler 2			
-	Home	Staple Home 2	Unblocked	Blocked
-	Staple Empty	Staple Empty 2	Unblocked	Blocked
-	Self Priming	Staple Self Priming 2	Unblocked	Blocked

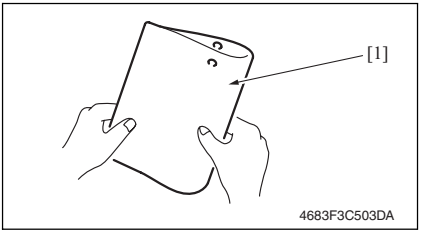
5. Mechanical adjustment

5.1 Check/Adjustment of the Punch Hole positions

5.1.1 Checking the punch hole position

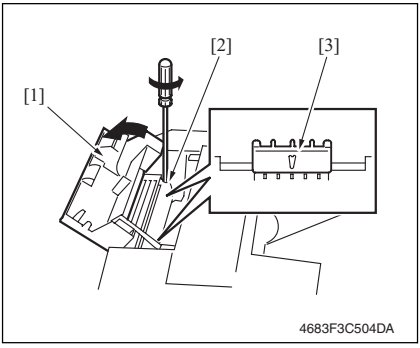


1. Load the Tray 1 with A4 paper.
2. Touch “Finishing” on Basic Screen.
3. Select Punch “2-Hole.”

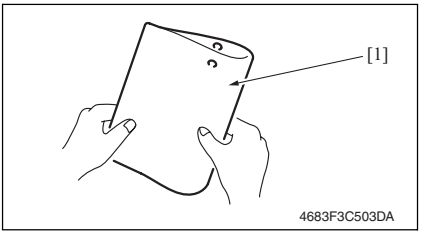


4. Place the A4 original (Blank paper acceptable) on the original tray, and press the Start key.
5. Fold the sample copy fed out of the machine in half and check that the punch holes are aligned with each other.
   Specifications: 0 ± 2 mm
6. If the specified range is not met, adjust the punch hole position.

5.1.2 Adjustment of the punch hole position



1. Open the upper cover [1], and loosen the set screw for the Punch Hole Guide Plate [2].
2. Move the green handle [3] back and forth to adjust the punch holes.
3. Tighten the set screw [2].
4. Close the upper cover [1].

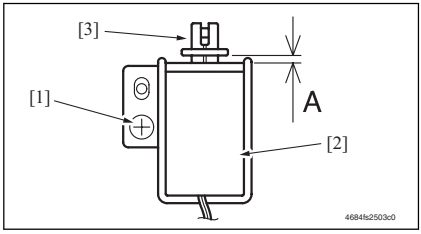


5. Make another sheet of sample copy [1] to check that the punch holes are aligned.

☞ 14

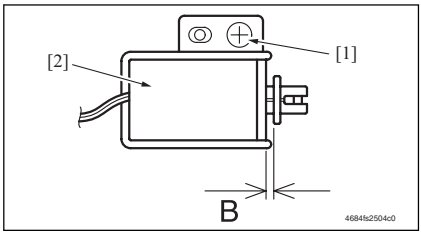
5.2 Adjustment of the solenoids

5.2.1 Adjustment of the Upper / Lower Entrance Switching Solenoid (SL1-FN)



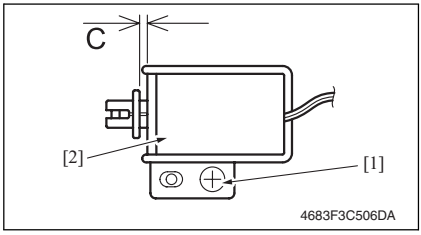
1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] up and down and lower the lever [3] downward. At this time, find a position at which the clearance at portion A becomes 0.5 mm or less. Then, tighten the screw [1].

5.2.2 Adjustment of the 1st Tray Entrance Selecting Solenoid (SL2-FN)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] to the right or left and, when dimension B measures 3.6 mm, tighten the screw [1].

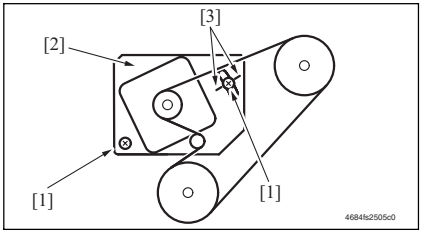
5.2.3 Adjustment of the 3rd Entrance Switching Solenoid (SL4)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] to the right or left and, when dimension C measures 4.0 mm, tighten the screw [1].

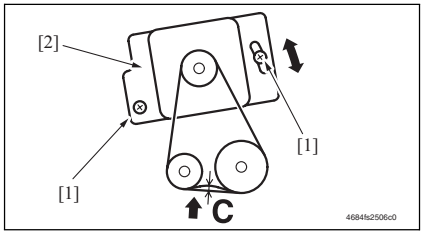
5.3 Timing belt tension adjustment

5.3.1 Adjustment of the Upper Entrance Motor (M4-FN) Timing Belt



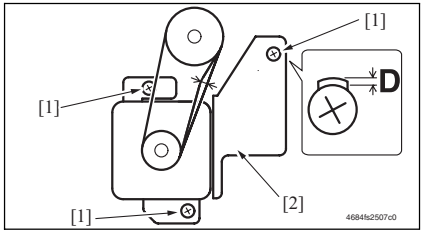
1. Loosen two screws [1].
2. Move the mounting bracket [2] and tighten the screw [1] so that the center of the screw [1] on the upper right side is located at the marked position [3] of the mounting bracket [2].

5.3.2 Adjustment of the Lower Entrance Motor (M2-FN) Timing Belt



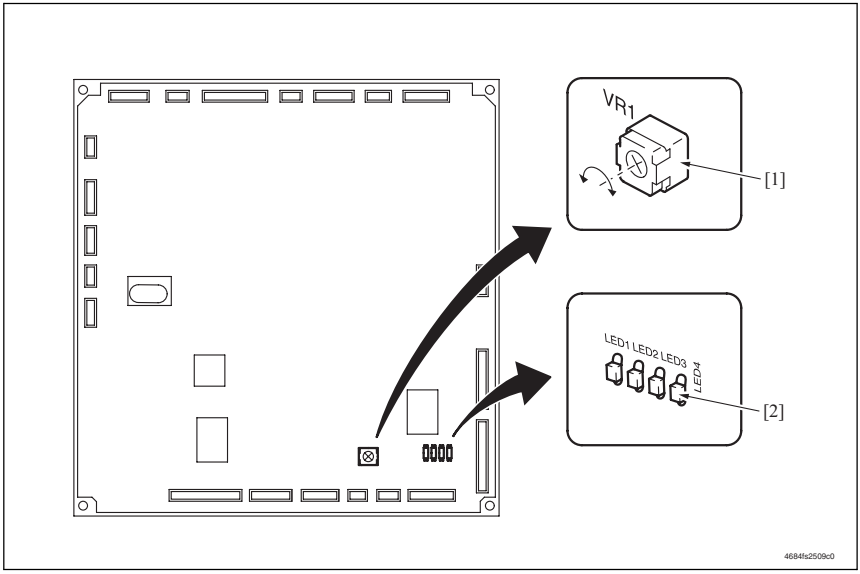
1. Loosen two screws [1].
2. Move the mounting bracket [2] and, when the belt deflects 2 mm at C, tighten two screws [1].

5.3.3 Adjustment of the Exit Motor (M3-FN) Timing Belt



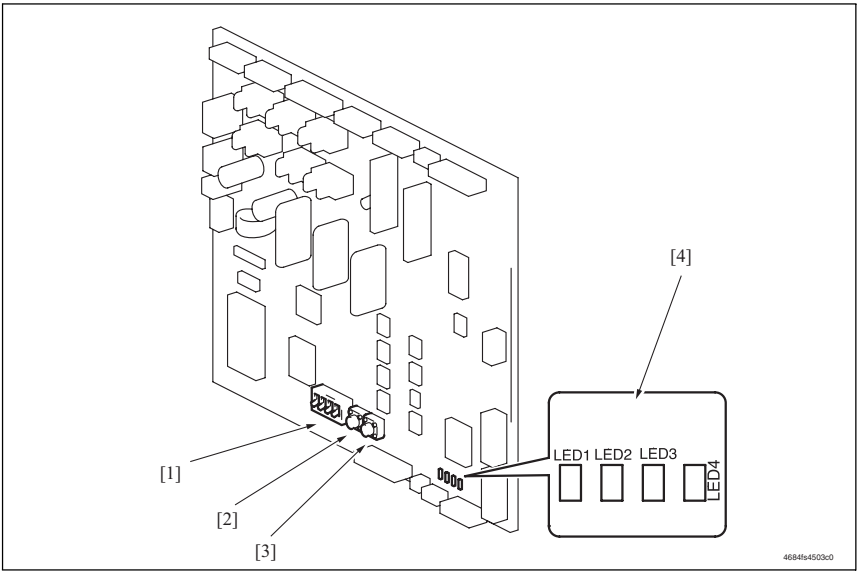
1. Loosen three screws [1].
2. Tighten three screws [1] so that the distance D between the upper end face of the head of screws [1] and the upper end face of the slot in the mounting bracket [2] measures about 0.5 mm.

5.4 Adjustment of the Elevator Tray Upper Limit Sensor



1. Set up the sensor test mode.
2. Turn VR1 on PWB-A FN fully counterclockwise.
3. Using a sheet of paper, block the Elevator Tray Upper Limit Sensor LED (PWB-C FN).
4. Check that LED4 on PWB-A FN turns OFF. If it stays ON, slowly turn VR1 clockwise and stop turning it as soon as the LED turns OFF.

6. Board switch



	Symbol	Description
[1]	S1	Used to run the Test Mode operation.
[2]	S2	Used to run the Test Mode operation.
[3]	S3	DIP switch used to set the Test Mode operation.
[4]	LED1 to 4	Turn ON or OFF, or blink to indicate a specific condition during Test Mode operations.

7. Test mode

7.1 Test mode setting procedure

<Setting Procedure>

1. Turn OFF the Main Power Switch of the main unit.
2. Flip keys of the DIP switch into the ON or OFF position as necessary. (See Table below.)
3. Turn ON the Main Power Switch of the main unit.
4. This sets the Finisher into the corresponding Test Mode operation.

<Resetting Procedure>

- Flip all keys of the DIP switch to their respective initial positions and turn OFF, then ON, the Main Power Switch of the main unit.

7.2 Test mode operations

Test mode operation	DIP Switch (S3)				LED			
	1	2	3	4	1	2	3	4
Primary paper output tray exit	ON				●	❍	❍	❍
Secondary paper output tray exit		ON			❍	●	❍	❍
Third tray exit			ON		❍	❍	●	❍
Finisher Tray exit	ON	ON			●	●	❍	❍
Shifting operation	ON		ON		●	❍	●	❍
Aligning Plate operation		ON	ON		❍	●	●	❍
Stapling Unit CD movement	ON	ON	ON		●	●	●	❍
Exit Roller/Rolls spacing				ON	❍	❍	❍	●
Storage Roller/Rolls spacing	ON			ON	●	❍	❍	●
Elevator Tray operation		ON		ON	❍	●	❍	●
Punch Operation	ON	ON		ON	●	●	❍	●
Punch Hole 2/3 Switching			ON	ON	❍	❍	●	●
Sensor test	ON		ON	ON	Indicates sensor state			

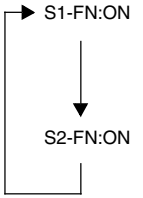
●:Blinking ❍:OFF

NOTE

- **Whenever the Control Board (PWB-A FN) is to be replaced, take note of the initial positions of all keys of the DIP switch. After the replacement procedure has been completed, be sure to flip all keys of the DIP switch on the new Control Board (PWB-A FN) to their respective initial positions.**

7.3 Operation in each test mode operation

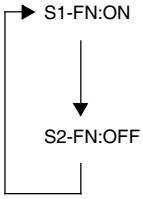
7.3.1 Primary paper output tray Exit



Motors and solenoids: Energized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)

Motors and solenoids: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)

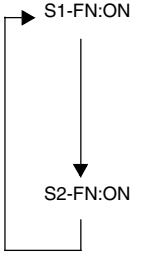
7.3.2 Secondary paper output tray Exit



Motors: Energized
(Entrance Motor (M1-FN), Lower Entrance Motor (M2-FN), Exit Motor(M3-FN)

Motors: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN)

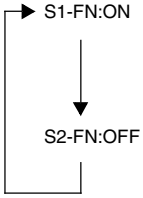
7.3.3 Third tray exit



Motors and solenoids: Energized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN), 3rd Entrance Switching Solenoid (SL4)

Motors and solenoids: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN), 3rd Entrance Switching Solenoid (SL4)

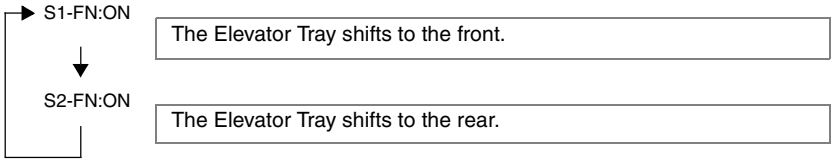
7.3.4 Finisher Tray Exit



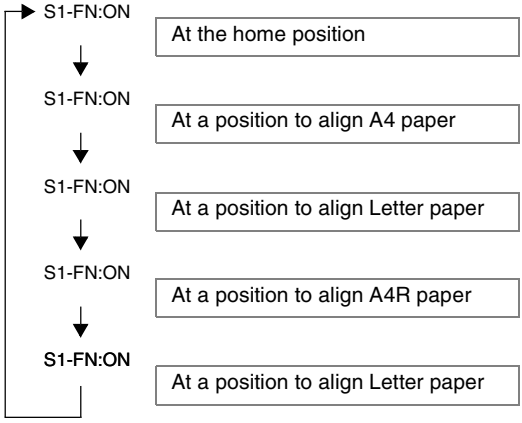
Motors and solenoids: Energized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)

Motors and solenoids: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)

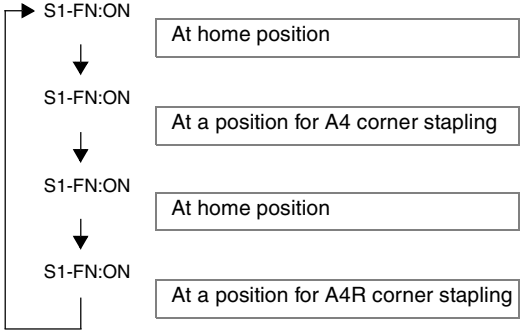
7.3.5 Shifting Operation



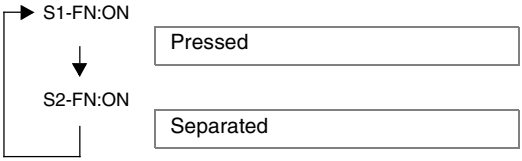
7.3.6 Aligning Plate Operation



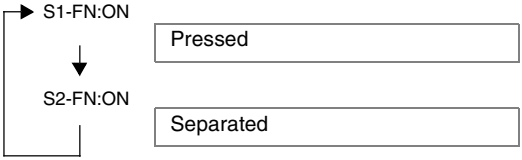
7.3.7 Stapling Unit CD Movement



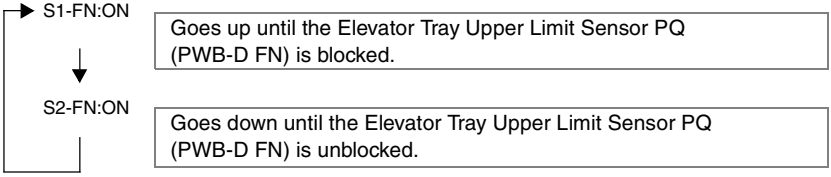
7.3.8 Exit Roller/Rolls Spacing



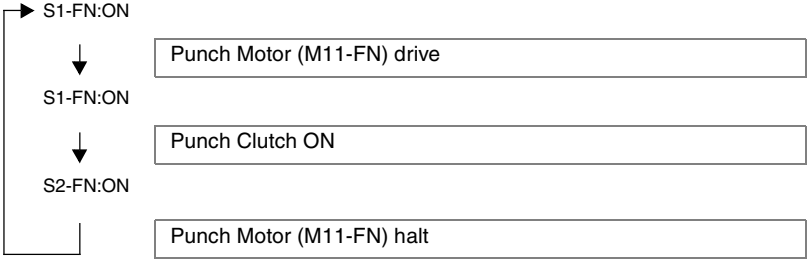
7.3.9 Storage Roller/Rolls Spacing



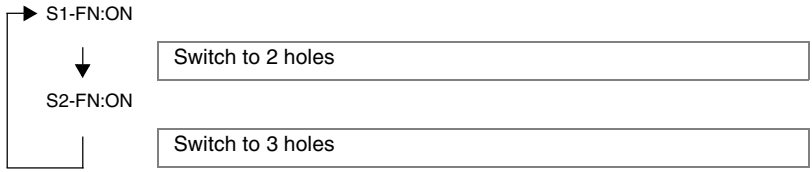
7.3.10 Elevator Tray Operation


S1-FN:ON
Goes up until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is blocked.
S2-FN:ON
Goes down until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is unblocked.

7.3.11 Punch Hole Operation



7.3.12 Punch Hole 2/3 Switching



7.3.13 Sensor Test

Sensor	State	LED			
		1	2	3	4
Elevator Tray Upper Limit Sensor PQ (PWB-D FN)	Unblocked	❍	❍	❍	●
Storage Sensor (PC3-FN)	Blocked	❍	❍	●	❍
Lower Entrance Sensor(PC2-FN)	Blocked	❍	●	❍	❍
Upper Entrance Sensor(PC4-FN)	Blocked	●	❍	❍	❍

●:ON ❍:OFF

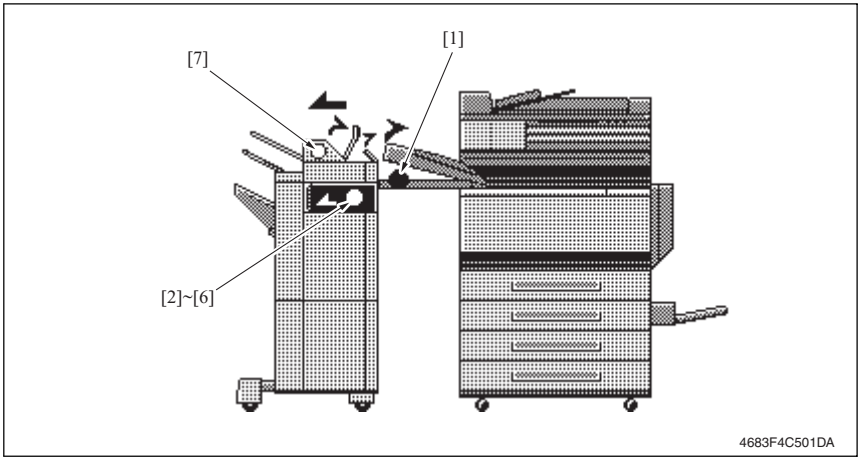
Blank Page

Troubleshooting

8. Jam Display

8.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

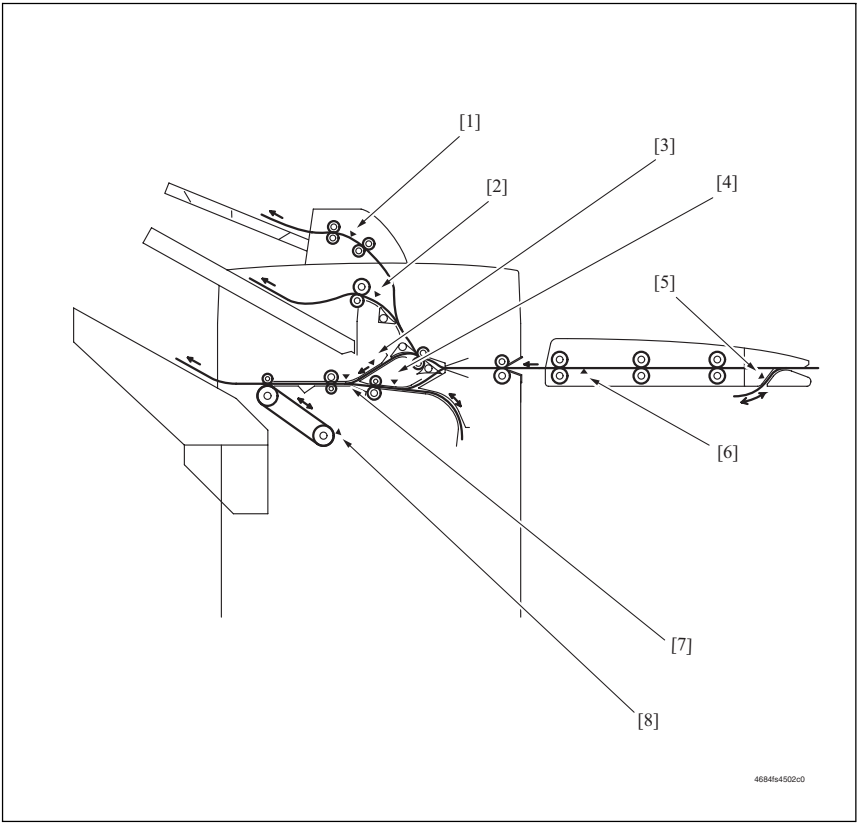


No.	Code	Misfeed location	Misfeed access location	Action
[1]	7403	Horizontal Transport section	Horizontal Transport section Cover	☞ 31
[2]	7401	Transport section	Front Door	☞ 28
[3]	7402	Primary Paper Output Tray Exit section	Front Door	☞ 29
[4]		Secondary Paper Output Tray Exit section	Front Door	☞ 30
[5]	7404	Paper Stack Exit section	Front Door	☞ 30
[6]	7405 7406	Stapler section	Front Door	☞ 31
[7]	7402	Third Tray Exit section (JS-601)	Job separator Upper Cover	☞ 29

8.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

8.2 Sensor layout



[1]	Job Tray Exit Sensor	PC19-FN	[6]	Paper Sensor	PC1-HO
[2]	1st Tray Exit Sensor	PC1-FN	[7]	Storage Sensor	PC3-FN
[3]	Upper Entrance Sensor	PC4-FN	[8]	Finisher Tray Paper Sensor	PC5-FN
[4]	Lower Entrance Sensor	PC2-FN			
[5]	Turnover Empty Sensor	PC6-HO			

8.3 Solution

8.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

8.3.2 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Job tray Exit Sensor (PC19-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Upper Entrance Sensor (PC4-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Lower Entrance Sensor (PC2-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN) 1st Tray Exit Sensor (PC1-FN) Paper Sensor (PC1-HO) Upper Entrance Sensor (PC4-FN) Lower Entrance Sensor (PC2-FN) Storage Sensor (PC3-FN) Entrance Motor (M1-FN) Upper Entrance Motor (M4-FN) Lower Entrance Motor (M2-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A-6 (ON)	FS-507 B-4
3	PC1-FN I/O, sensor check	PWB-A FN PJ19A-6 (ON)	FS-507 B-8
4	PC1-HO I/O, sensor check	PWB-A FN PJ15A-4 (ON)	FS-507 B-5
5	PC4-FN I/O, sensor check	PWB-A FN PJ20A-9 (ON)	FS-507 H-6
6	PC2-FN I/O, sensor check	PWB-A FN PJ19A-8 (ON)	FS-507 B-8
7	PC3-FN I/O, sensor check	PWB-A FN PJ20A-3 (ON)	FS-507 H-7
8	M1-FN operation check	PWB-A FN PJ9A-1 to 4	FS-507 B-2
9	M4-FN operation check	PWB-A FN PJ9A-5 to 8	FS-507 B-2
10	M2-FN operation check	PWB-A FN PJ9A-9 to 12	FS-507 B-2
11	PWB-A FN replacement	—	—

8.3.3 Primary Paper Output Tray Exit section misfeed

A. Detection timing

Type	Description
Primary paper output tray exit section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
1st Tray Exit Sensor (PC1-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1-FN I/O, sensor check	PWB-A FN PJ19A-6 (ON)	FS-507 B-8
3	PWB-A FN replacement	—	—

8.3.4 Third Tray Exit section misfeed (JS-601)

A. Detection timing

Type	Description
Third tray exit section misfeed detection (JS-601)	The Job Tray Exit Sensor (PC19-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A-6 (ON)	FS-507 B-4
3	PWB-A FN replacement	—	—

8.3.5 Secondary Paper Output Tray Exit section misfeed

A. Detection timing

Type	Description
Secondary paper output tray exit section misfeed detection	The Storage Sensor (PC3-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Storage Sensor (PC3-FN) Exit Motor (M3-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC3-FN I/O, sensor check	PWB-A FN PJ20A-3 (ON)	FS-507 H-7
3	M3-FN operation check	PWB-A FN PJ8A-1 to 4	FS-507 B-1
4	PWB-A FN replacement	—	—

8.3.6 Paper Stack Exit section misfeed

A. Detection timing

Type	Description
Paper stack exit section misfeed detection	The Finisher Tray Paper Sensor (PC5-FN) remains activated when a copy stack, which has been stapled together, is fed out.

B. Action

Relevant electrical parts	
Exit Motor (M3-FN) Finisher Tray Paper Sensor (PC5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-FN I/O, sensor check	PWB-A FN PJ25A-2 (ON)	FS-507 H-3
3	M3-FN operation check	PWB-A FN PJ8A-1 to 4	FS-507 B-1
4	PWB-A FN replacement	—	—

8.3.7 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Stapler does not return to its home position within a given period of time after the forward drive of the Stapler has been started.

B. Action

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC14-FN I/O, sensor check	PWB-A FN PJ22A-3 (ON)	FS-507 H-5
3	M6-FN operation check	PWB-A FN PJ10A-1 to 4	FS-507 B-3
4	Stapling Unit replacement	—	—
5	PWB-A FN replacement	—	—

8.3.8 Horizontal Transport section misfeed

A. Detection timing

Type	Description
Horizontal Transport section misfeed detection	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not blocked even after the lapse of a given period of time after the leading edge of the paper has unblocked the Paper Exit Sensor of the main unit.
	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO).

B. Action

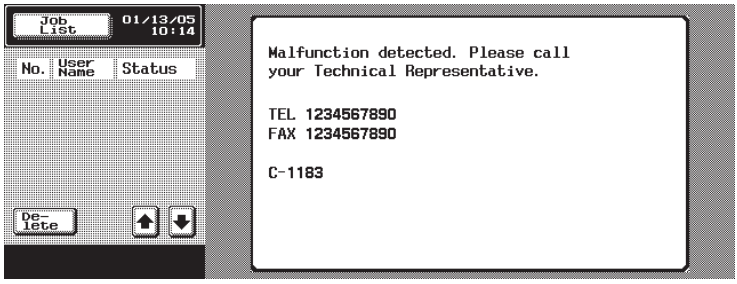
Relevant electrical parts	
Paper Sensor (PC1-HO) Turnover Empty Sensor (PC6-HO)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Horizontal Transport section gear check	—	—
3	PC1-HO I/O, sensor check	PWB-A FN PJ15A-4 (ON)	FS-507 B-5
4	PC6-HO I/O, sensor check	PWB-A FN PJ15A-12 (ON)	FS-507 B-6
5	PWB-A FN replacement	—	—

9. Trouble code

9.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4683F4E504DA

9.2 Trouble code list

Code	Item	Description
C1182	Shift Motor drive malfunctions	• The Shift Home Position Sensor (PC10-FN) does not go HIGH even after the lapse of a given period of time after M8-FN has been energized (to start returning the Elevator Tray to its home position). • The Shift Home Position Sensor (PC10-FN) does not go LOW even after the lapse of a given period of time after M8-FN has been energized (to start moving the Elevator Tray for job offset).
C1183	Elevator Motor drive malfunctions	• The Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is not activated even after the lapse of a given period of time after M7-FN has been energized (to start raising the Elevator Tray). • The Elevator Tray Upper Limit Switch (S2-FN) or Elevator Tray Lower Limit Switch (S3-FN) is actuated after M7-FN has been energized.
C1190	CD Aligning Motor drive malfunction	• The CD Aligning Home Position Sensor (PC9-FN) does not go LOW even after the lapse of a given period of time after M5-FN has been energized (to return the Aligning Plate to its home position).
C11A1	Exit Roller/Rolls Spacing Motor drive malfunction	• The Exit Roller Home Position Sensor (PC13-FN) does not go HIGH even after the lapse of a given period of time after M13-FN has been energized (to start spacing/pressure sequence).
C11A2	Storage Roller/Rolls Spacing Motor drive malfunction	• The Storage Roller Home Position Sensor (PC12-FN) does not go HIGH even after the lapse of a given period of time after M12-FN has been energized (to start spacing/pressure sequence).

Code	Item	Description
C11B0	Stapling Unit Moving Motor drive malfunction	• The Staple Home Position Sensor (PC14-FN) does not go HIGH even after the lapse of a given period of time after M6-FN has been energized (to return the Stapling Unit to its home position).
C11B2	Stapling Motor drive malfunction 1	• Stapling Motor 1 is not deenergized even after the lapse of a given period of time after it has been energized (to start a stapling sequence).
C11B3	Stapling Motor drive malfunction 2	• Stapling Motor 2 is not deenergized even after the lapse of a given period of time after it has been energized (to start a stapling sequence).
C11C0	Punch Motor drive malfunction	• The Punch Speed Sensor (PC15-FN) does not go from LOW to HIGH, or vice versa, even after the lapse of a given period of time after M11-FN has been energized.
C11C4	Hole Position Selector Motor drive malfunction (U.S.A. and Canada)	• The Hole Punch Position Switch (S4) is not actuated or deactuated even after the lapse of a given period of time after M14 has been energized.

9.2.1 How to reset

- Open and close the Front Door or turn OFF and ON the Main Power Switch.

9.3 Solution

9.3.1 C1182: Shift Motor drive malfunctions

Relevant electrical parts	
Shift Home Position Sensor (PC10-FN) Shift Motor Pulse Sensor (PC11-FN) Shift Motor (M8-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC10-FN I/O, sensor check	PWB-A FN PJ25A-12 (ON)	FS-507 H-2
4	PC11-FN I/O, sensor check	PWB-A FN PJ25A-14 (ON)	FS-507 H-2
5	M8-FN operation check	PWB-A FN PJ5A-3 to 4	FS-507 H-7
6	PWB-A FN replacement	—	—

9.3.2 C1183: Elevator Motor drive malfunctions

Relevant electrical parts	
Elevator Tray Upper Limit Sensor PQ (PWB-D FN) Elevator Tray Upper Limit Switch (S2-FN) Elevator Tray Lower Limit Switch (S3-FN) Elevator Motor (M7-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PWB-D FN I/O, sensor check	PWB-A FN PJ21A	FS-507 G to H-6
4	S2-FN operation check	PWB-A FN PJ4A-1	FS-507 H-8
5	S3-FN operation check	PWB-A FN PJ4A-4	FS-507 H-8
6	M7-FN operation check	PWB-A FN PJ5A-1 to 2	FS-507 H-7
7	PWB-A FN replacement	—	—

9.3.3 C1190: CD Aligning Motor drive malfunction

Relevant electrical parts	
CD Aligning Home Position Sensor (PC9-FN) CD Aligning Motor (M5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC9-FN I/O, sensor check	PWB-A FN PJ25A-6 (ON)	FS-507 H-3
4	Turn OFF the Main Power Switch, move the Aligning Plate out of its home position, and turn ON the Main Power Switch. Operation check of the CD aligning Motor (M5-FN) at this time.	PWB-A FN PJ11A-5 to 8	FS-507 B-3
5	PWB-A FN replacement	—	—

9.3.4 C11A1: Exit Roller/Rolls Spacing Motor drive malfunction

Relevant electrical parts	
Exit Roller Home Position Sensor (PC13-FN) Exit Roller/Rolls Spacing Motor (M13-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC13-FN I/O, sensor check	PWB-A FN PJ19A-15 (ON)	FS-507 B-9
4	M13-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN PJ16A-1 to 2	FS-507 B-6
5	PWB-A FN replacement	—	—

9.3.5 C11A2: Storage Roller/Rolls Spacing Motor drive malfunction

Relevant electrical parts	
Storage Roller Home Position Sensor (PC12-FN) Storage Roller/Rolls Spacing Motor (M12-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC12-FN I/O, sensor check	PWB-A FN PJ20A-6 (ON)	FS-507 H-6
4	M12-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN PJ8A-5 to 6	FS-507 B-2
5	PWB-A FN replacement	—	—

9.3.6 C11B0: Stapling Unit Moving Motor drive malfunction

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC14-FN I/O, sensor check	PWB-A FN PJ22A-3 (ON)	FS-507 H-5
4	Turn OFF the Main Power Switch, move the Stapling Unit out of its home position, and turn ON the Main Power Switch. Operation check of the Stapling Unit Moving Motor (M6-FN) at this time.	PWB-A FN PJ10A-1 to 4	FS-507 B-3
5	PWB-A FN replacement	—	—

9.3.7 C11B2: Stapling Motor drive malfunction 1

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the Stapling motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of Stapling motor for proper drive coupling, and correct as necessary.	—	—

9.3.8 C11B3: Stapling Motor drive malfunction 2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the Stapling motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of Stapling motor for proper drive coupling, and correct as necessary.	—	—

9.3.9 C11C0: Punch Motor drive malfunction

Relevant electrical parts	
Punch Speed Sensor (PC15-FN) Punch Motor (M11-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC15-FN I/O, sensor check	PWB-A FN PJ13A-8 (ON)	FS-507 H-1
4	M11-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN PJ6A-1 to 2	FS-507 H-2
5	PWB-A FN replacement	—	—

9.3.10 C11C4: Hole Position Selector Motor drive malfunction

Relevant electrical parts	
Punch Unit Hole Punch Position Switch (S4) Hole Position Selector Motor (M14)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Punch Unit replacement	—	—
3	PWB-A FN replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-603

2005.03

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

General

1. Product specification 1
1.1 Type 1
1.2 Functions 1
1.3 Paper type 1
1.3.1 Group, Group offset 1
1.3.2 Sort, Sort offset 1
1.3.3 Sort staple 2
1.3.4 Center Staple & Fold 2
1.4 Stapling 2
1.5 No. of sheets to be stapled (sort staple) 3
1.6 Machine specifications 3
1.7 Operating environment 3

Maintenance

2. Other 5
2.1 Disassembly/Adjustment prohibited items 5
2.2 Disassembly/Assembly list (Other parts) 6
2.3 Disassembly/Assembly procedure 7
2.3.1 Exit Tray 7
2.3.2 Front Cover 7
2.3.3 Rear Cover 7
2.3.4 Upper Door 8
2.3.5 Finisher Tray Upper Cover 8
2.3.6 Upper Cover 9
2.3.7 Side Guide 9
2.3.8 Middle Transport Unit 10
2.3.9 Stapler 10
2.3.10 Saddle Section 11
2.3.11 Finisher Tray 11
2.3.12 Paddle Section 12
2.3.13 Exit Roller (Upper) 14
2.3.14 Paddle 14
2.3.15 Exit Roller (Lower) and Paper Exit Belt 15
2.3.16 Stapler/Folding Drive Unit 17
2.3.17 Transport Roller 18

2.3.18 Middle Transport Roller 19
2.3.19 Punch Unit 20
2.3.20 Finisher Control Board 21
2.3.21 Punch Control Board 21
2.3.22 Transport Motor Unit 22
2.3.23 Middle Transport Motor 22
2.3.24 Punch Motor 22
2.3.25 Side Registration Motor 22

Adjustment/Setting

3. How to use the adjustment section 23
4. Sensor check 24
4.1 Check procedure 24
4.2 Sensor check list 24
4.2.1 Sensor check screen 24
5. Mechanical adjustment 26
5.1 Adjustment of the stapling position 26
5.1.1 Adjustment procedure 26
5.2 Adjustment of the folding position 28
5.2.1 Adjustment procedure 28
5.3 Adjustment of height and inclination 30
5.4 Adjustment of the Folding Position 32
5.4.1 Adjustment procedure 32
5.5 Stapler Phase Adjustment 36
5.5.1 Adjustment procedure 36
5.6 Saddle Gear Phase Adjustment 39
6. Board switch 40
6.1 PWB-A FN (Finisher Control Board) 40
6.1.1 Adjustment of the folding positions 41
6.1.2 Adjustment of the center stapling position 42
6.1.3 Adjustment of the Alignment Plate position 43
6.2 PWB-B PK (Punch Control Board) 45
6.2.1 Adjustment of the sensor output 46
6.2.2 Registration of the number of punch holes 46
6.2.3 Procedure after replacing the EEP-ROM (IC1002) 47
6.2.4 Punch center position adjustment 47

Troubleshooting

7. Jam Display 51
7.1 Misfeed display 51
7.1.1 Misfeed display resetting procedure 51
7.2 Sensor layout 52
7.3 Solution 53
7.3.1 Initial check items 53
7.3.2 Transport section misfeed 53
7.3.3 Horizontal Transport section misfeed 54
7.3.4 Folding position section misfeed 54
7.3.5 Stapler section misfeed 55
8. Trouble code 56
8.1 Trouble code display 56
8.2 Trouble code list 56
8.2.1 How to reset 59
8.3 Solution 60
8.3.1 C1180: Transport System Drive malfunctions 60
8.3.2 C1181: Paddle Motor malfunctions 60
8.3.3 C1183: Elevate Mechanism malfunctions 61
8.3.4 C1192: Front Aligning Plate Motor malfunctions 61
8.3.5 C1193: Rear Aligning Plate Motor malfunctions 62
8.3.6 C11A4: Booklet Exit Motor malfunctions 62
8.3.7 C11B1: Stapler Unit Slide Motor malfunctions 63
8.3.8 C11B4: Stapler/Folding Motor malfunctions 63
8.3.9 C11C1: Punch Control Board malfunctions 65
8.3.10 C11C2: Punch Side Registration Motor malfunctions 66
8.3.11 C11C3: Punch Motor malfunctions 66
8.3.12 C11C5: Punch Sensor malfunctions 67
8.3.13 C1401: Backup RAM malfunction 68

Blank Page

General

1. Product specification

1.1 Type

Type	Multi Staple Finisher with Saddle (Booklet)
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge

1.2 Functions

Modes	Normal	Group, Sort, Group Offset, Sort Offset, Sort Staple Center Staple & Fold
	Punch (Option)	Group Punch, Sort Punch, Group Offset Punch, Sort Offset Punch, Sort Staple Punch

1.3 Paper type

- Remove the finisher off the machine for feeding the long paper.
- The maximum loading capacity shown is for when loading the single type of paper (80g/m^2)

1.3.1 Group, Group offset

<table>
<tr><th>Plain Paper</th><th>Paper Size</th><th>Weight</th><th colspan="3">Tray Capacity *1</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="2"></td><td rowspan="2">B5R/B5 to A3 wide
5.5 × 8.5R/ 5.5 × 8.5
to
12.25 × 18</td><td rowspan="2">60 to 90 g/m^2
16 to 24 lb</td><td></td><td>A4R / 8.5×11R or smaller</td><td>B4/ 8.5×14 or larger</td><td rowspan="2">1st paper exit tray</td><td rowspan="2">-</td></tr>
<tr><td>No. of Sheet Height</td><td>1000
150 mm</td><td>500
75 mm</td></tr>
<tr><td>Envelop
OHP Film
Label Paper
Thick Paper</td><td>60 to 256 g/m^2
16 to 68 lb</td><td colspan="3">20 sheet</td></tr>
</table>

*1: Controlled by whichever reached earlier

1.3.2 Sort, Sort offset

<table>
<tr><th>Paper Type</th><th>Paper Size</th><th>Weight</th><th colspan="3">Tray Capacity</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="3">Plain Paper</td><td rowspan="3">A5,B5R/B5 to A3
8.5 × 11R/ 8.5 × 11
to
11 × 17</td><td rowspan="3">60 to 90 g/m^2
16 to 24 lb</td><td rowspan="2"></td><td>A4R / 8.5×11R or smaller</td><td>B4/ 8.5×14 or larger</td><td rowspan="3">1st paper exit tray</td><td rowspan="3">-</td></tr>
<tr><td>No. of Sheets Height</td><td>1000
150 mm</td><td>500
75 mm</td></tr>
<tr><td colspan="3">Controlled by whichever reached earlier</td></tr>
</table>

1.3.3 Sort staple

Paper Type	Paper Size	Weight	Tray Capacity			Exit Tray	No. of Sheets to be Stapled	
Plain Paper Cardboard	B5R/B5 to A3 8.5 × 11R/ 8.5 × 11 to 11×17	Normal Mode 60 to 90 g/m^2 16 to 24 lb		A4R / 8.5×11R or smaller	B4/ 8.5×14 or larger	1st paper exit tray	Normal Mode *1	
			No. of Sheets	1000	500		A4R/ 8.5× 11R or smaller	B4/ 8.5×14 or larger
			Height	150 mm	75 mm		2 to 50	2 to 25
			No. of Sets	30	30			
		Cover Mode 60 to 209 g/m^2 16 to 55.5 lb	Controlled by whichever reached earlier					

* The number of Sheets to be Stapled is limited for high-density images.
(Color Wise: 20 sheets x 20 sets)

1.3.4 Center Staple & Fold

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain Paper	A4R, B4, A3 8.5 × 11R/ 11 × 17	60 to 90 g/m^2 16 to 24 lb	10 sets (No. of Sheets to be Stapled: 6 to 15 sheets) 20 sets (No. of Sheets to be Stapled: 2 to 5 sheets)	2nd paper exit tray	Black copy 2 to 15 sheets (Max. 60 pages) Other copy 2 to 10 sheets (Max. 40 pages)

1.4 Stapling

Staple Filling Mode	Dedicated Staple Cartridge Mode (5000 staples)	
Staple Detection	Available (Nearly Empty: 40 remaining staples)	
Stapling Position	Rear: Parallel 1 point	B5R/B5 to A3, 8.5× 11R / 8.5× 11 to 11 × 17
	Front: Parallel 1 point	
	Side: Parallel 2 points	
	Center: Parallel 2 points	
Manual Staple	None	
Folding Mode	Roller Pressure Folding	
Folding Position	Center of Paper	

1.5 No. of sheets to be stapled (sort staple)

A. A4R, 8.5× 11R or smaller

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	40	40
3 to 5	80	40	40
6 to 10	60	40	40
11 to 20	30	30	30
21 to 30	30	30	30
31 to 50	30 sets or 1000 sheets		

B. B4, 8.5× 14 or larger

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	50	50
3 to 5	80	40	40
6 to 10	40	40	40
11 to 20	30 sets or 1000 sheets		
21 to 25			

1.6 Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	65 W or less
Dimensions	601 mm (W) × 933 mm (H) × 603 mm (D) 23.75 inch (W) × 36.75 inch (H) × 23.75 inch (D)
Weight	41.6 kg (91.75 lb)

1.7 Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES

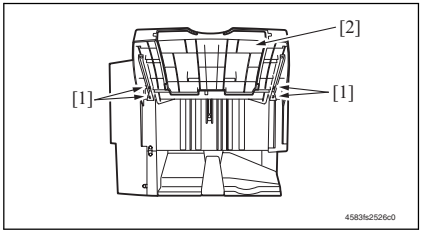
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Exit Tray	☞ 7
2		Front Cover	☞ 7
3		Rear Cover	☞ 7
4		Upper Door	☞ 8
5		Finisher Tray Upper Cover	☞ 8
6		Upper Cover	☞ 9
7	Unit	Side Guide	☞ 9
8		Middle Transport Unit	☞ 10
9		Stapler	☞ 10
10		Saddle Section	☞ 11
11		Finisher Tray	☞ 11
12		Paddle Section	☞ 12
13		Exit Roller (Upper)	☞ 14
14		Paddle	☞ 14
15		Exit Roller (Lower) and Paper Exit Belt	☞ 15
16		Stapler/Folding Drive Unit	☞ 17
17		Transport Roller	☞ 18
18		Middle Transport Roller	☞ 19
19		Punch Unit	☞ 20
20	Electrical Parts	Finisher Control Board	☞ 21
21		Punch Control Board	☞ 21
22		Transport Motor Unit	☞ 22
23		Middle Transport Motor	☞ 22
24		Punch Motor	☞ 22
25		Side Registration Motor	☞ 22

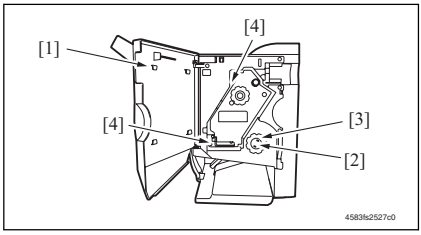
2.3 Disassembly/Assembly procedure

2.3.1 Exit Tray

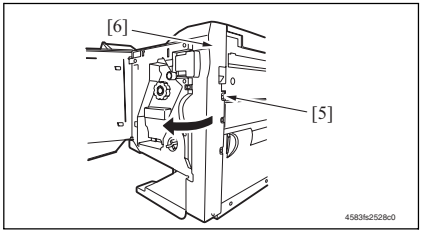


1. Remove four screws [1], and remove the Exit Tray [2].

2.3.2 Front Cover

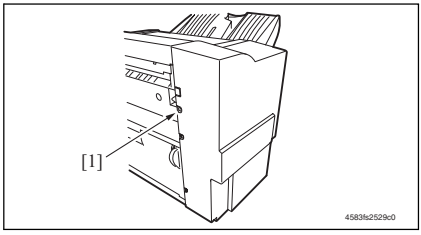


1. Remove the Middle Transport Unit.
☞ 10
2. Open the Front Door [1].
3. While pinching the claws [2], remove the Folding Jam Release Dial [3].
4. Remove two screws [4].

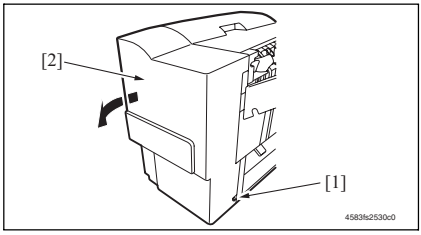


5. Remove the screw [5], and remove the Front Cover [6].

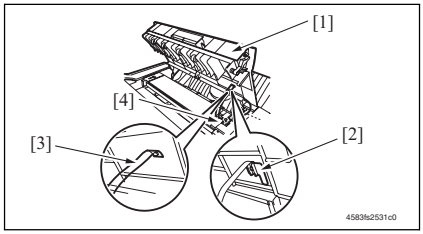
2.3.3 Rear Cover



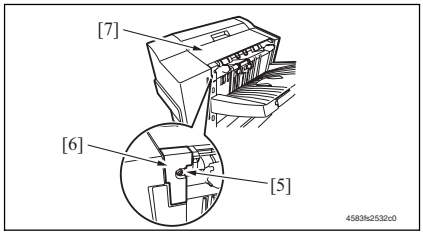
1. Remove the Middle Transport Unit.
☞ 10
2. Remove two screws [1], and remove the Rear Cover [2].



2.3.4 Upper Door

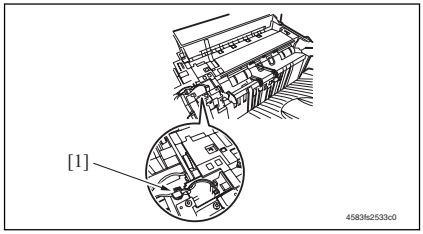


1. Open the Upper Door [1], and remove the Door Band Holder [2] by turning it clockwise.
2. Remove the Door Band [3].
3. Remove the screw [4], and remove the grounding wire.

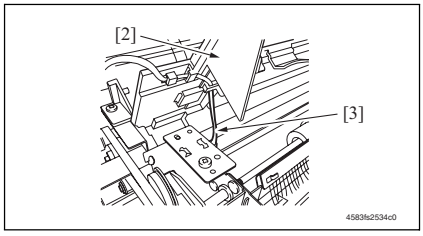


4. Remove the screw [5], remove the Finisher Tray Rear Cover [6], and remove the Upper Door [7].

2.3.5 Finisher Tray Upper Cover

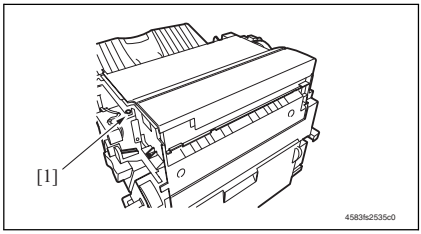


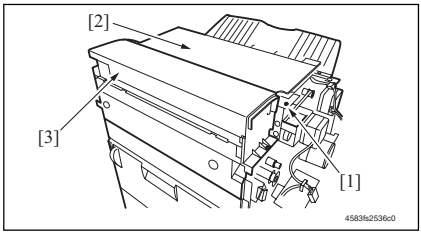
1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove the Upper Door.
☞ 8
4. Unplug the connector [1].



5. Unplug the connector [3] while holding up the Finisher Tray Upper Cover [2], and remove the Finisher Tray Upper Cover [2].

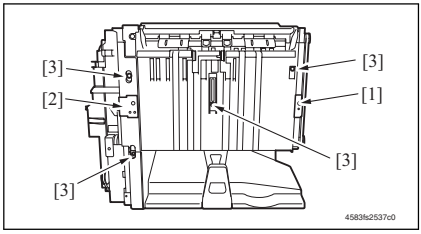
2.3.6 Upper Cover



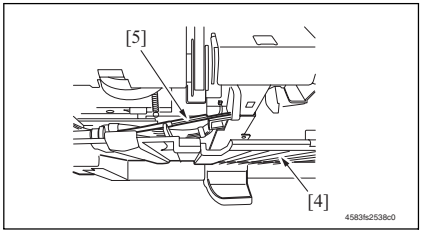


1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove two screws [1].
4. Open the Upper Door[2],and remove the Upper Cover [3].

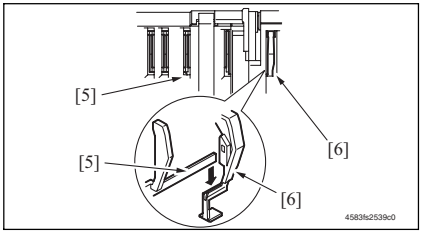
2.3.7 Side Guide



1. Remove the Exit Tray.
☞ 7
2. Remove the Front Cover.
☞ 7
3. Remove the Rear Cover.
☞ 7
4. Derail the Exit Tray Support Plate (Front) [1] and the Exit Tray Support Plate (Rear) [2] to the outside off the respective rail grooves.
5. Remove four screws [3].



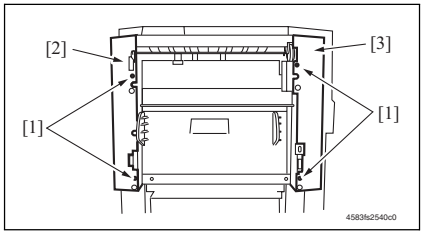
6. Pull down the Side Guide [4] lightly, disengage the Exit Tray Home Position Detecting Lever (Rear) [5], and then remove the Side Guide [4].



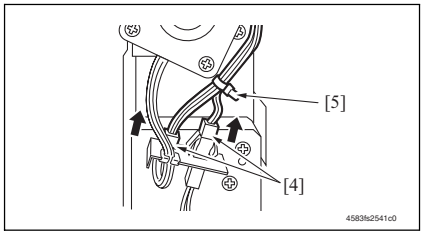
NOTE

- **In reassembling, ensure of exact installation with the Exit Tray Home Position Detecting Lever (Rear) [5] set in the slot of the Exit Tray Home Position Detecting Lever (Center) [6].**
- **After reassembly, press each of these levers for several times to make sure of exact installation.**

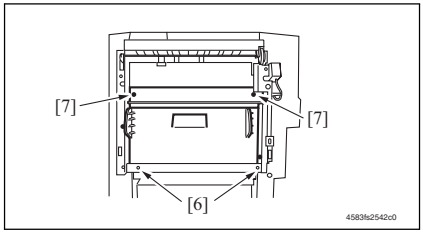
2.3.8 Middle Transport Unit



1. Remove four screws [1].
2. Hold up the Middle Front Cover [2] and the Middle Rear Cover [3], and remove them while shifting them back and forth.

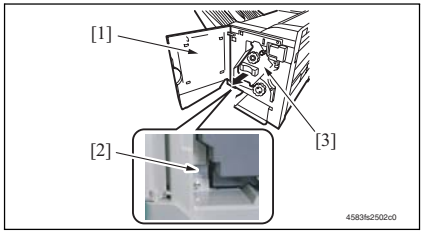


3. Unplug two connectors [4].
4. Pinch the tie band [5], and remove it from the sheet metal.

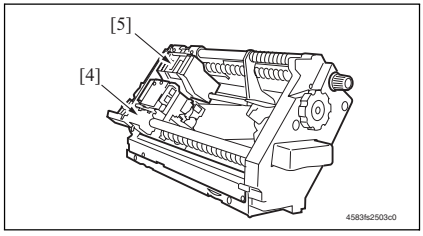


5. Remove two screws [6].
6. Loosen two screws [7].
7. Remove the Middle Transport Unit by sliding it upwards.

2.3.9 Stapler



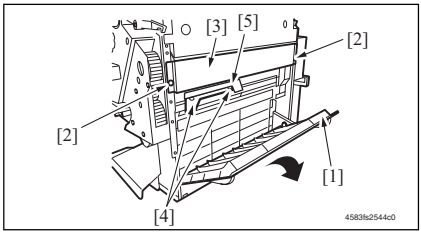
1. Open the Front Door [1].
2. Pull out the Stapler [3] while pressing the Stop Lever [2].



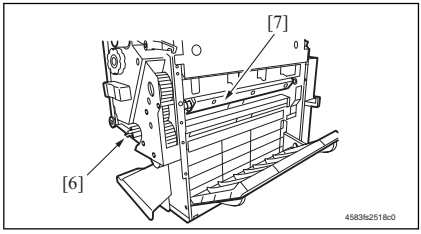
NOTES

- **Do not remove the Stapler from the shaft of the stapler frame, or displacement will be caused between the position to which the Staple Driver [4] (the lower unit of the Stapler) feeds staples and the position from which the Staple Clincher [5] (the upper unit of the Stapler) receives them.**

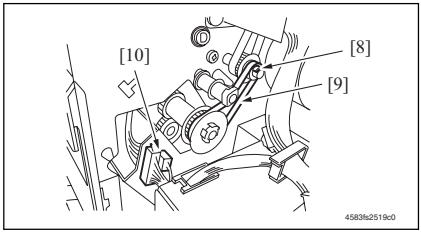
2.3.10 Saddle Section



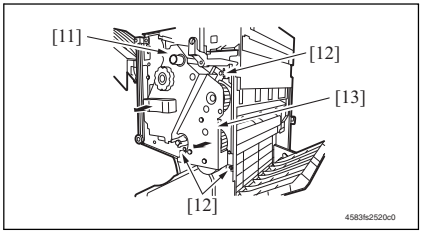
1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove the Punch Dust Box.
4. Open the Jam Access Cover [1], remove two screws [2], and remove the Right Stay [3].
5. Remove two screws [4], and remove the Lever [5].



6. Turn the Folding Jam Release Dial [6] to move the Paper Pressure [7] inside.

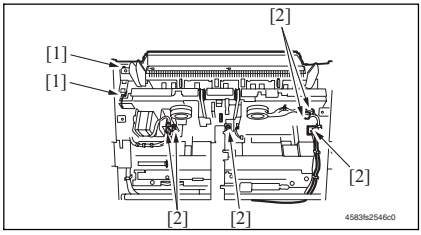


7. Remove the C-clip [8], and remove the Belt [9].
8. Unplug two connectors [10].

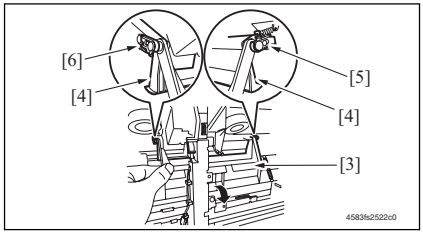


9. Remove the Stapler[11].
☞ 10
10. Remove three screws [12], and pull out and remove the Saddle [13].

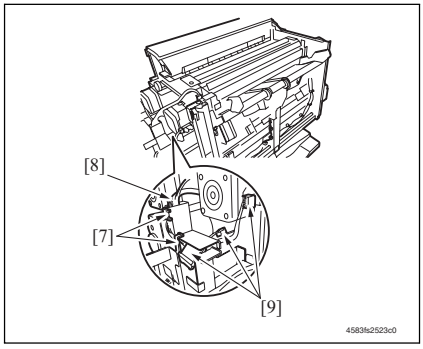
2.3.11 Finisher Tray



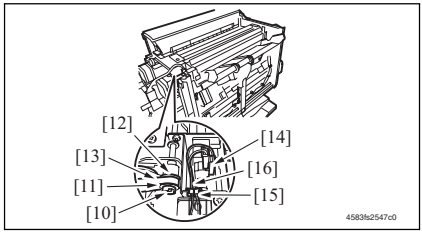
1. Remove the Finisher Tray Upper Cover.
☞ 8
2. Remove the Side Guide.
☞ 9
3. Remove two screws [1],and unplug six connectors [2].



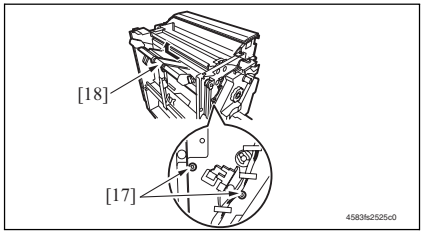
4. Pull out the Finisher Stopper Base [3], and disengage the front claw [5] and the rear claw [6] of the Finisher Stopper [4].



5. Remove the Motor Harness [8] from two Harness Saddles [7].
6. Unplug three connectors [9].

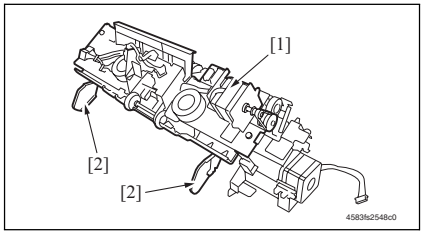


7. Remove the C-clip [10], and remove the spacer [11], and remove the Belt [13] from the Gear [12].
8. Unplug the connector [14], and remove the Harness [16] from the Wire Saddle [15].



9. Remove two screws [17], and remove the Finisher Tray [18] by sliding it to the far side and lifting it.

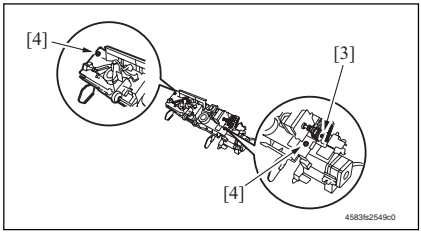
2.3.12 Paddle Section



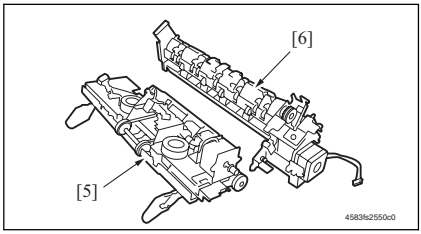
1. Remove the Finisher Tray.
☞ 11
2. Place the Finisher Tray [1] as shown in the figure.

NOTE

- **Be careful not to damage the Aligning Plate [2].**

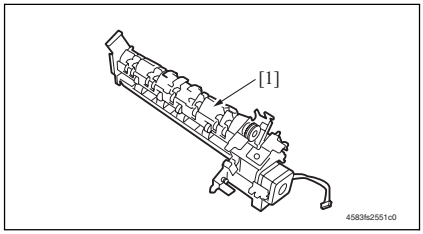


3. Remove the Belt [3], and remove two screws [4].

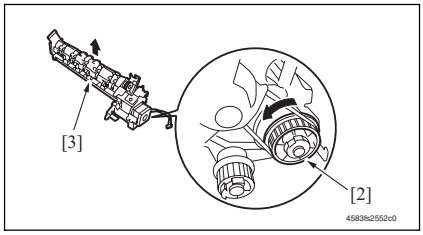


4. Separate the section into the Tray Section[5] and the Paddle Section [6].

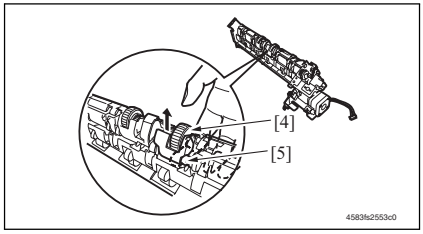
2.3.13 Exit Roller (Upper)



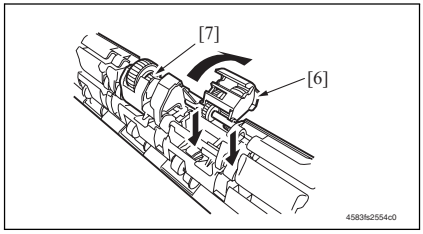
1. Remove the Paddle Section.
☞ 12
2. Place the Paddle Section [1] as shown in the figure.



3. Turn the gear [2] in the direction indicated by an arrow to move up the Exit Roller (Upper) section [3].

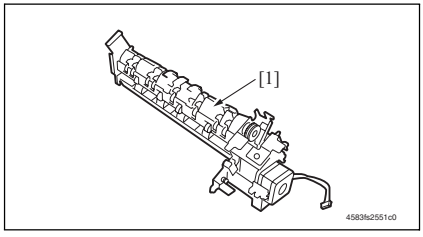


4. Push up the Exit Roller (Upper) [4] from the bottom to release it from the shaft [5].

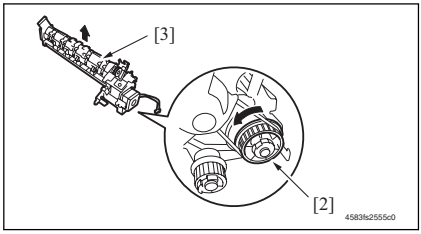


5. Turn up the Exit Roller (Upper) [6], and then push it down to remove it.
6. Remove the front Exit Roller (Upper) [7] as well in the same way.

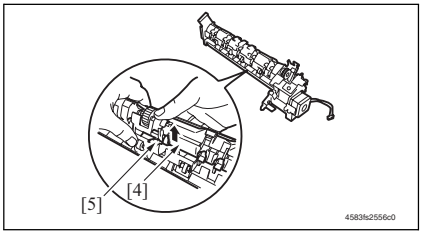
2.3.14 Paddle



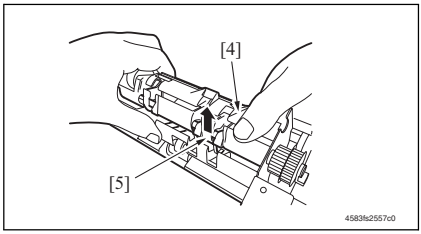
1. Remove the Paddle Section.
☞ 12
2. Place the Paddle Section [1] as shown in the figure.



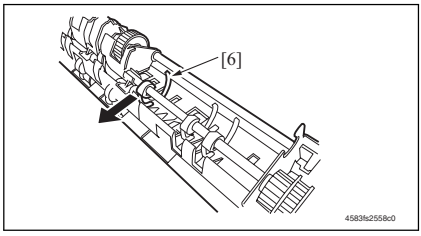
3. Turn the gear [2] in the direction indicted by an arrow to move up the Exit Roller (Upper) section [3].



4. Push up the Safety Guide [4] from the bottom to release it on one side from the shaft [5].

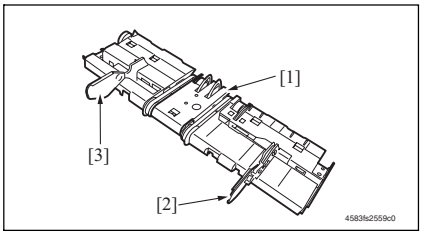


5. Push up the Safety Guide [4] from the bottom to release it from the shaft [5] and remove it.

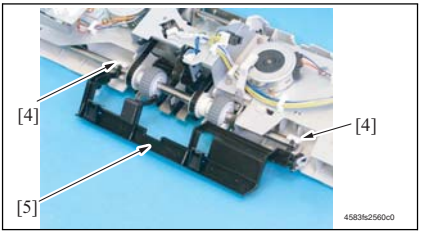


6. Remove the Paddle [6].
7. Remove the other Paddles as well in the same way.

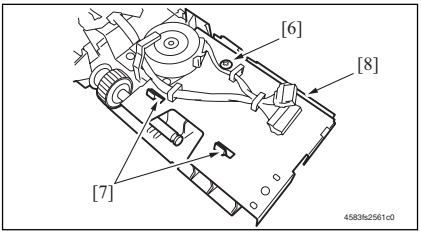
2.3.15 Exit Roller (Lower) and Paper Exit Belt



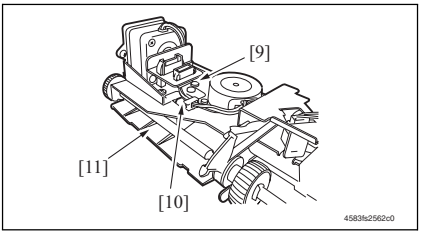
1. Remove the Tray Section.
☞ 12
2. Slide the Aligning Plate (Front) [2] and the Aligning Plate (Rear) [3] outside to remove them from the Tray [1].



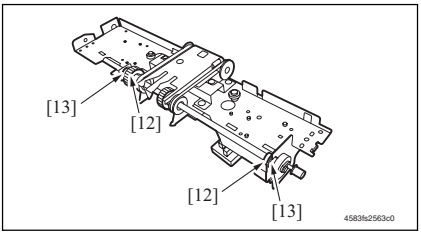
3. Remove two Holders [4], and remove the Finisher Tray Stopper [5].



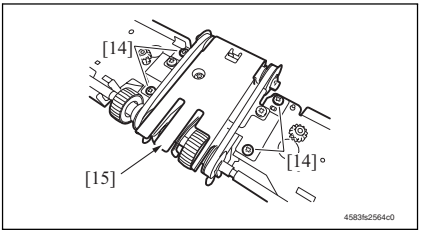
4. Remove the screw [6], and remove the Paper Guide (Front) [8] while disengaging two claws [7].



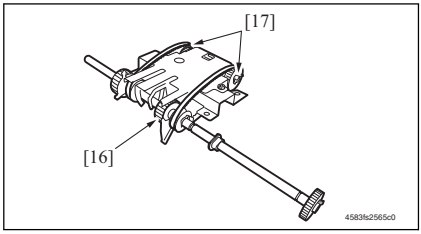
5. Remove the screw [9], and remove the Paper Guide (Rear) [11] while disengaging the claw [10].



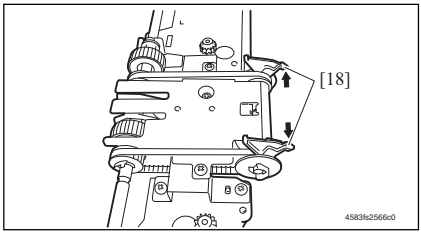
6. Remove two C-clips [12], and move two bushings [13] inside, respectively.



7. Remove four screws [14], and remove the Exit Roller (Lower) section [15] by lifting it.



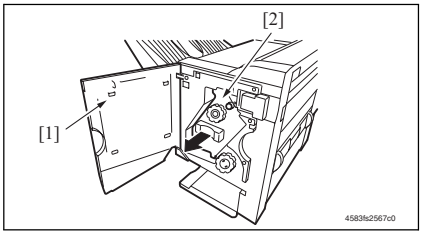
8. Remove the Exit Roller (Lower) [16] and two Paper Exit Belts [17].



NOTE

- **When installing, align the edge of claws of the Paper Exit Belt [18].**

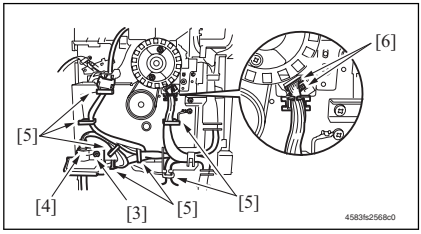
2.3.16 Stapler/Folding Drive Unit



1. Remove the Rear Cover.

☞ 7

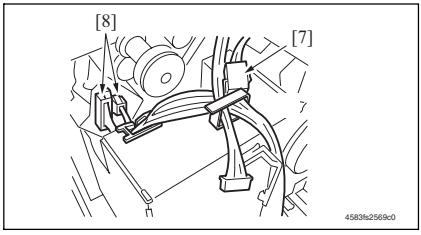
2. Open the Front Door [1], and slightly pull out the stapler section [2].



3. Remove screw [3], and remove the interface cable presser [4].

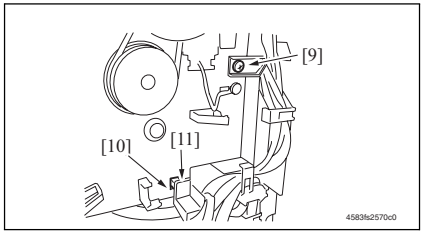
4. Remove the Harness from seven Harness Saddles[5].

5. Remove the Harness from the Wire Saddle, and unplug two connectors [6].

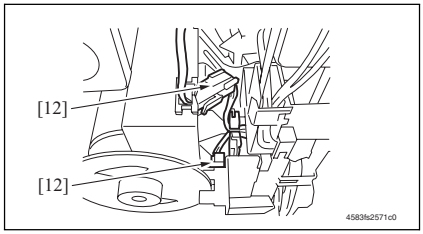


6. Remove the Harness from the Harness Saddle, and unplug the connector [7].

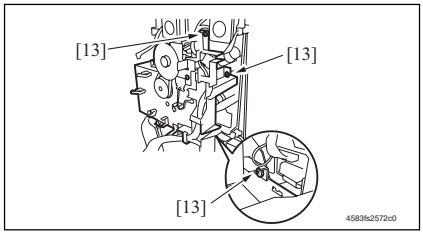
7. Remove the Harness from the Wire Saddle, and unplug two connectors [8].



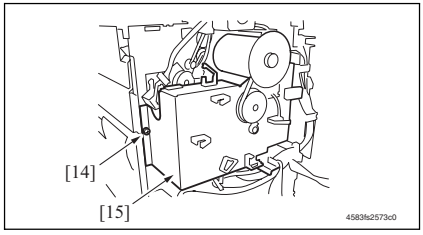
8. Remove the screw [9], and remove the claw of Harness Guide [11] from the square hole [10] in the base plate.



9. Unplug two connectors [12], and remove the Harness from the Wire Saddle.

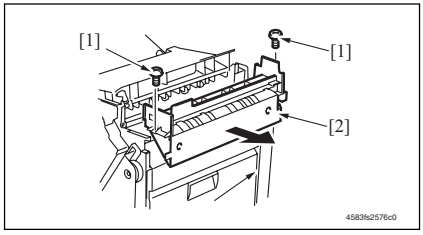


10. Remove three screws [13].

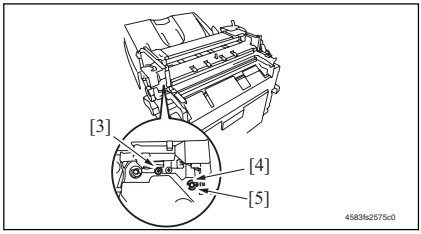


11. Remove the screw [14], and remove the Stapler/Folding Drive Unit [15].

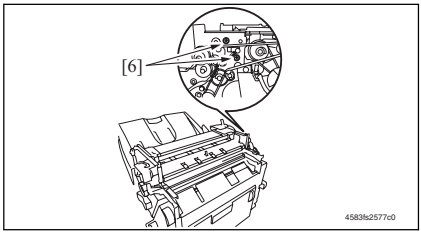
2.3.17 Transport Roller



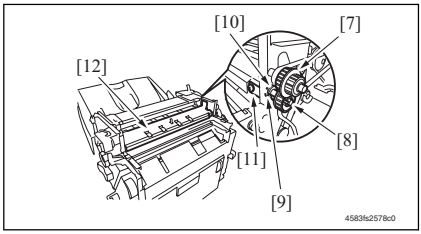
1. Remove the Upper Door.
☞ 8
2. Remove the Upper Cover.
☞ 9
3. Remove two screws [1], and remove the Upper Cover Unit [2].



4. Remove the Transport Motor Unit.
☞ 22
5. Remove the screw [3].
6. Remove the C-clip [4], and remove the bushing [5].



7. Remove two screws [6].

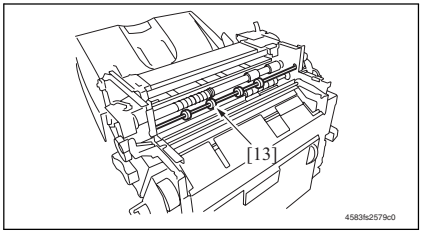


8. Remove the gear 1 [7], and remove the gear 2 [8] while disengaging the claw.

NOTE

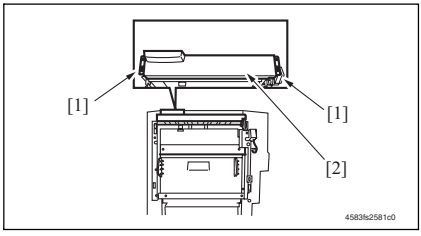
- **Be careful not to lose the gear pin.**

9. Remove the C-clip [9], and remove the bushing [10].
10. Remove the screw [11], and remove the Paper Guide (Lower) [12].

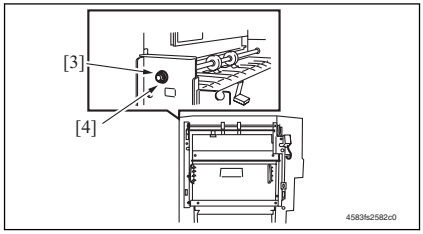


11. Remove the Transport Roller [13].

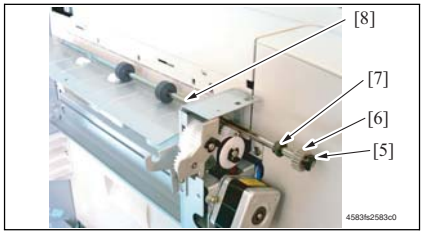
2.3.18 Middle Transport Roller



1. Remove the Middle Front Cover and the Middle Rear Cover.
☞ 10
2. Remove Two screws [1], and remove the Middle Upper Cover[2].

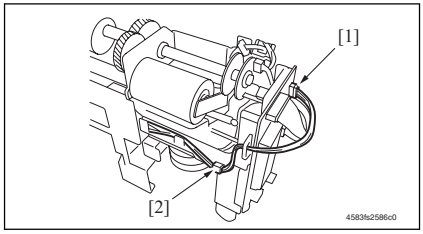


3. Remove the C-clip[3], and remove the bushing [4].

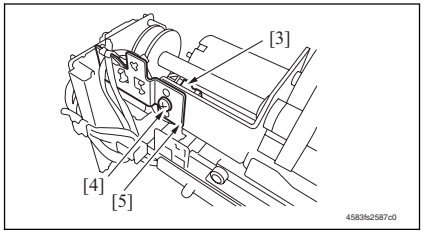


4. Shift the Shaft Assy in the orientation as shown on the left.
5. Remove the C-clip [5], the Gear [6], the bushing [7], and remove the Middle Transport Roller [8].

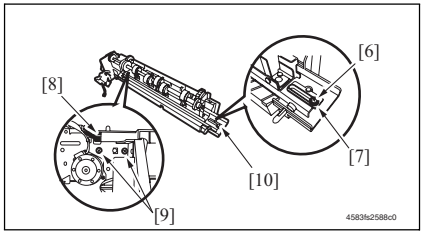
2.3.19 Punch Unit



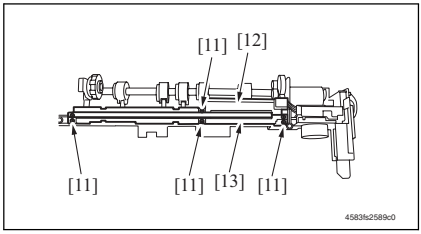
1. Remove the Punch Trash Box.
2. Unplug the connector J1005 [1].
3. Remove the Harness from the Harness Guide [2].



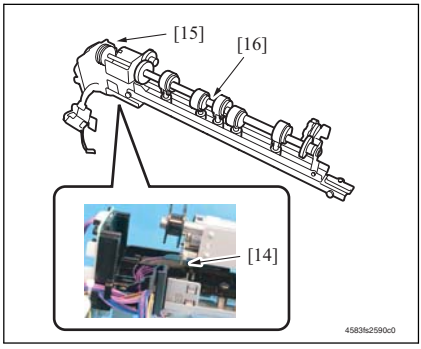
4. Unplug the connector [3].
5. Remove the screw [4], and remove the Sensor Support Plate [5].



6. Remove the screw [6] and the washer [7].
7. Unplug the connector [8].
8. Remove two screws [9], and remove the base cover [10].

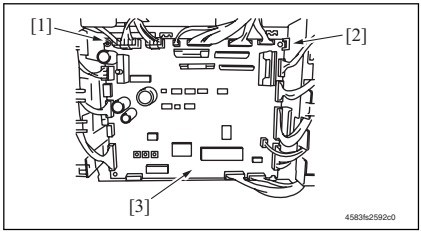


9. Remove four screws [11], and remove the Sensor Unit (Upper) [12] and the Sensor Unit (Lower) [13].



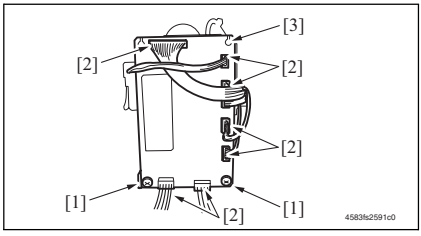
10. Remove the spring[14].
11. Remove the Punch Unit [16] from the Side Registration Motor section [15].

2.3.20 Finisher Control Board



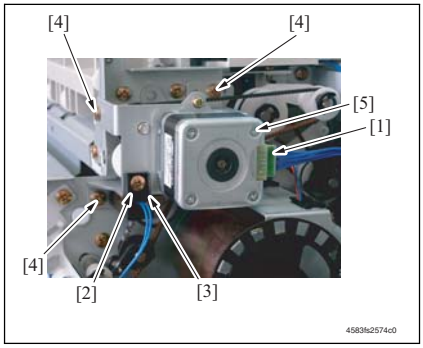
1. Remove the Rear Cover.
☞ 7
2. Unplug all connectors on the Board, and remove the screw [1].
3. Release the PCB support [2], and remove the Finisher Control Board [3].

2.3.21 Punch Control Board



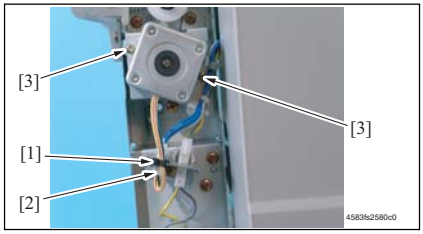
1. Remove two screws [1].
2. Unplug seven connectors [2], and remove the Punch Control Board [3].

2.3.22 Transport Motor Unit



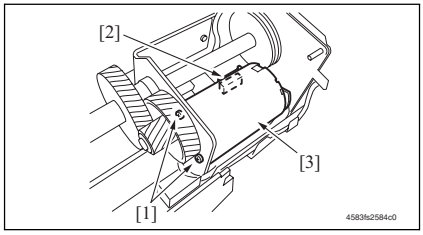
1. Remove the Rear Cover.
☞ 7
2. Unplug the connector [1].
3. Remove screw [2], and remove the Harness Guide [3].
4. Remove three screws [4], and remove the Transport Motor Unit [5].

2.3.23 Middle Transport Motor



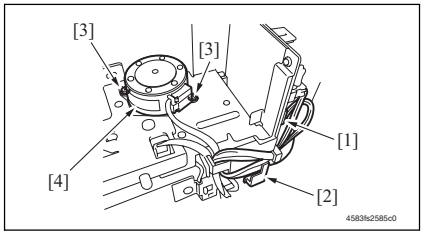
1. Remove the Middle Rear Cover.
☞ 10
2. Remove the harness from the Wire Saddle [1].
3. Unplug the connector [2].
4. Remove two screws [3].

2.3.24 Punch Motor



1. Remove the Upper Cover.
☞ 9
2. Remove two screws [1].
3. Unplug the connector [2], and remove the punch motor [3].

2.3.25 Side Registration Motor



1. Unplug the connector J1001 [1].
2. Remove the harness from the Harness Guide [2].
3. Remove two screws [3], and remove the Side Registration Motor [4].

Adjustment/Setting

3. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by " ".

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

4. Sensor check

4.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

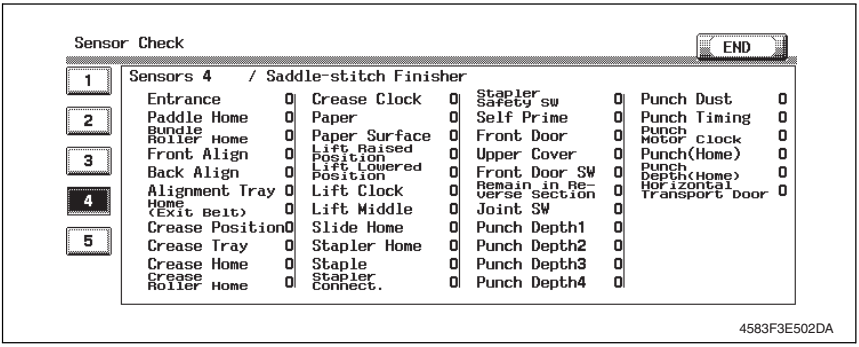
2. Touch the “State Confirmation” key.

3. Touch the “Sensor Check” key.

4.2 Sensor check list

4.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



A. Sensor monitor 4 (FS-601, PK-501)

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI1-FN	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN	Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN	Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN	Front Align	Front Aligning Plate Home Position Sensor	HP	
PI5-FN	Back Align	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN	Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN	Home (Exit Belt)	Exit Belt Home Position Sensor	HP	

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI10-FN	Crease Position	Folding Position Sensor	Paper present	Paper not present
PI13-FN	Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN	Crease Home	Folding Home Position Sensor	HP	
PI12-FN	Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN	Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN	Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN	Paper Surface	Exit Tray Home Position Sensor	DETECTED	
PI15-FN	Lift Raised Position	Shift Upper Limit Sensor	UPPER LIMIT	
PI16-FN	Lift Lowered Position	Shift Lower Limit Sensor	LOWER LIMIT	
PI17-FN	Lift Clock	Shift Motor Clock Sensor		
	Lift Middle		FULL	
PI18-FN	Slide Home	Slide Home Position Sensor		HP
PI19-FN	Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN	Staple	Staple Detecting Sensor	SUPPLIED	EMPTY
	Stapler Connect.			DETECTED
MS3-FN MS4-FN	Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	OPEN	CLOSE
PI21-FN	Self Prime	Self-Priming Sensor		READY
PI22-FN	Front Door	Front Door Open Sensor	CLOSE	OPEN
PI23-FN	Upper Cover	Upper Cover Open Sensor	CLOSE	OPEN
MS1-FN	Front Door SW	Front Door Open Switch	CLOSE	OPEN
	Remain in Reverse Section			HORIZONTAL
MS2-FN	Joint SW	Joint Open Switch	CLOSE	OPEN
	Punch Depth 1			
	Punch Depth 2			
	Punch Depth 3			
	Punch Depth 4			
	Punch Dust		FULL	
	Punch Timing			
PI3P-PK	Punch Motor Clock	Punch Motor Clock Sensor	Blocked	Unblocked
PI1P-PK	Punch (Home)	Punch Home Position Sensor	HP	
PI2P-PK	Punch Depth (Home)	Side Registration Home Sensor	HP	
PC4-HO	Horizontal Transport Door	Horizontal Unit Door Sensor	Blocked	Unblocked

5. Mechanical adjustment

5.1 Adjustment of the stapling position

- The stapling position is adjusted by aligning the stapling position to the folding position.
- This adjustment is made in the Service Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to "Board switch."

☞ 40

Adjustable range: - 7 to + 7 mm (Increment: 1 mm)

5.1.1 Adjustment procedure

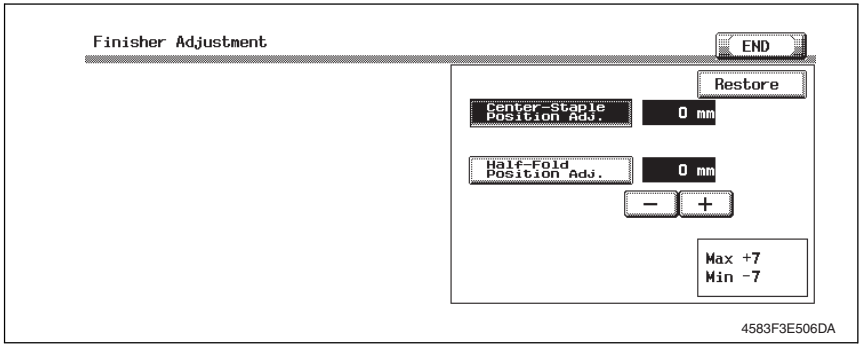
1. Set A3 or 11 x 17 to the Feed Tray.
2. Touch these keys in this order: "Fold & Staple" → "OK."
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

4. Press the "Start" Key.
5. Set the mode to the Service Mode.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

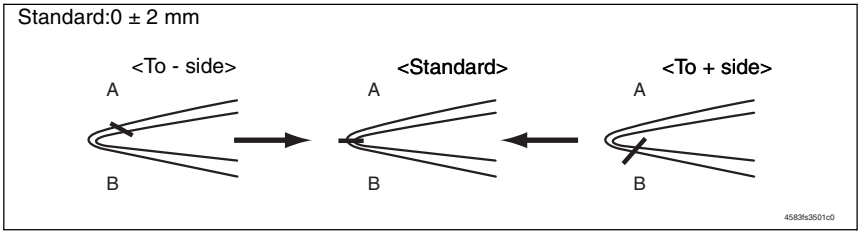
6. Touch "Finisher".
7. Touch "Center-Staple Position Adj."

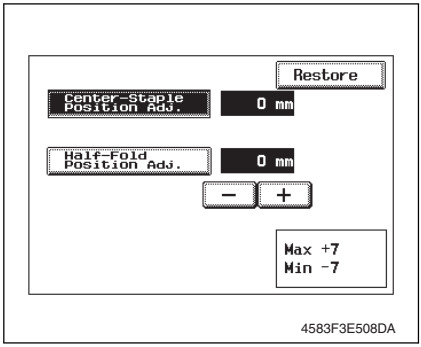


8. Renew the center folding of the finished copies.
   Take the top surface of the finished copies as "A", and the under surface as "B."
9. Check the deviation of the stapling position from the newly folded position.

NOTE

- **In checking the deviation, refer not to the folded position by the Finisher but to the newly folded position.**





10. Press the “Clear” Key.

11. Adjust with the +/- Keys.
When the stapling position is shifted to the direction A: Adjust the value to the - side.
When the stapling position is shifted to the direction B: Adjust the value to the + side.

12. Touch “END.”

13. Make the copy and check again.

5.2 Adjustment of the folding position

- The folding position is adjusted by aligning the folding position to the stapling position.
- This adjustment is made in the Service Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to "Board switch."

☞ 40

Adjustment range: - 7 to + 7 mm (Increment: 1 mm)

5.2.1 Adjustment procedure

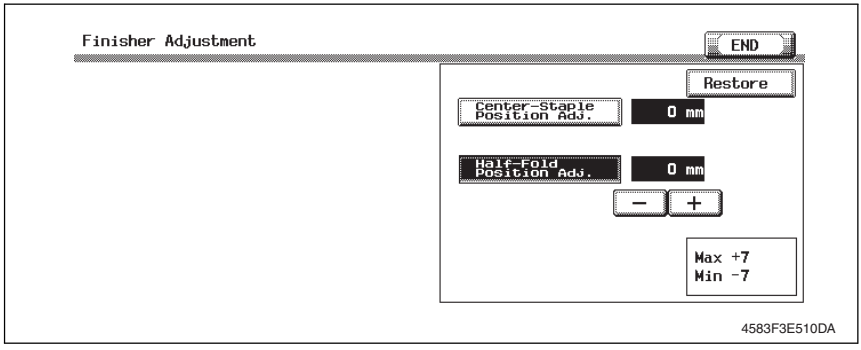
1. Set A3 or 11 x 17 to the Feed Tray.
2. Touch these keys in this order: "Fold & Staple" → "OK."
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

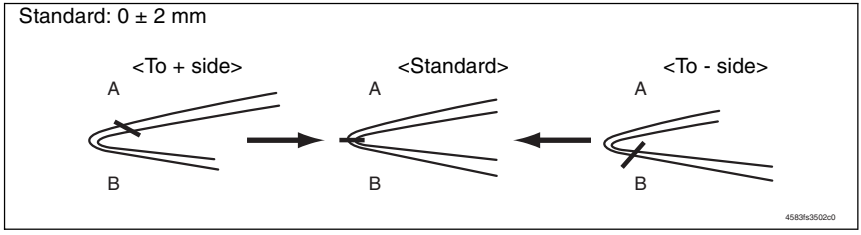
4. Press the "Start" Key.
5. Set the mode to the Service Mode.

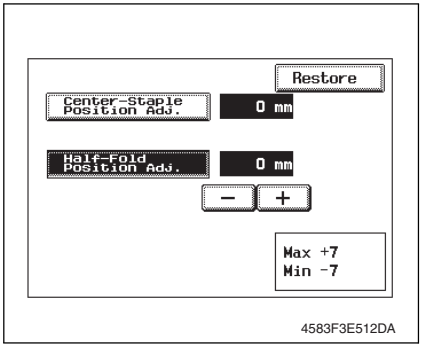
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

6. Touch "Finisher."
7. Touch "Half-Fold Position Adj."



8. Check the finished copies for deviation of the stapling position of from the newly folded position.
   Take the top surface of the finished copies as "A", and the under surface as "B."





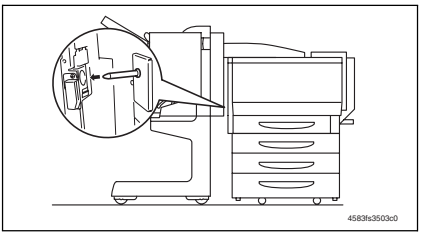
12. Make the copy and check again.

9. Press the “Clear” Key.

10. Adjust with the +/- Keys.
When the stapling position is shifted to the direction A: Adjust the value to the + side.When the stapling position is shifted to the direction B: Adjust the value to the - side.

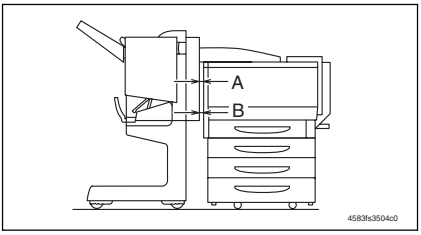
11. Touch “END.”

5.3 Adjustment of height and inclination

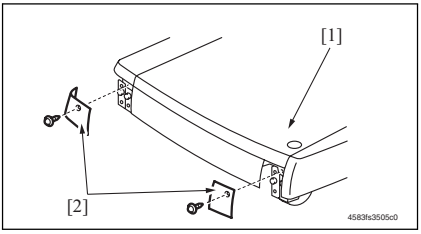


1. Gently move the finisher toward the machine and check for following.

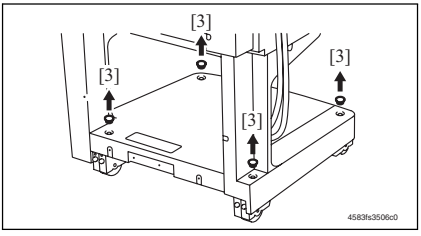
- Is the positioning pin aligned with the hole in the finisher?



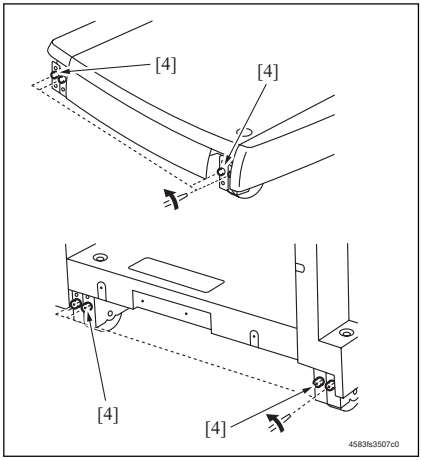
- Does the horizontal transport unit run excessively slantwise?
- Does the clearance at A equal that at B?
- If the finisher is not at the same height as the machine, adjust the machine as follows.



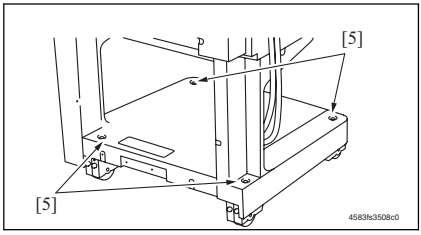
2. Remove the Finisher [1] from the main unit, and remove two caster covers [2].



3. Remove four adjusting screw covers [3].



4. Loosen four caster fixing screws [4]. (4 points)



5. Turn the adjustment screw [5] to make adjustment.

- To heighten: Turn the screw counter-clockwise.
- To bring down: Turn the screw clock-wise.

6. Fasten the caster fixing screws.

7. Install the caster covers and the adjustment screw covers.

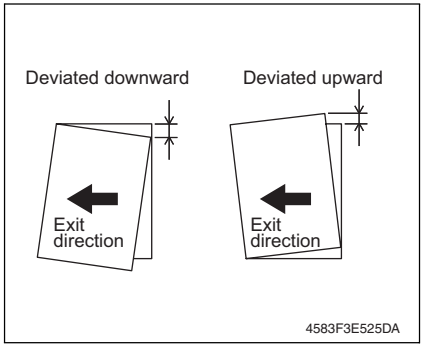
5.4 Adjustment of the Folding Position

- Folding position is adjusted by adjusting the Tray Section and the Saddle Section.
- Adjust the folding position by aligning the Tray Section. Adjust the position of the Saddle Section if the position is still not proper.

<Deviation amount which will be adjusted>

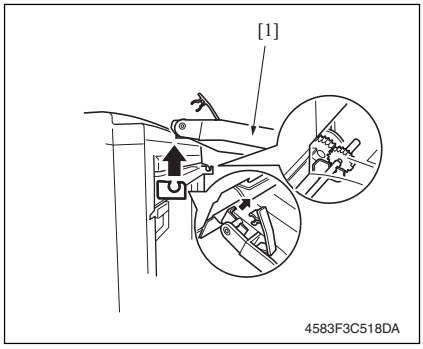
Paper Size	Amount of deviation which will be adjusted by aligning the Tray Section	Amount of deviation which will be adjusted by aligning the Saddle Section position	Total amount which will be adjusted
A3	0.55 mm	0.55 mm	1.1 mm
A4	0.4 mm	0.4 mm	0.8 mm
B4	0.5 mm	0.5 mm	1.0 mm
Ledger	0.55 mm	0.55 mm	1.1 mm
Letter	0.35 mm	0.35 mm	0.7 mm

5.4.1 Adjustment procedure



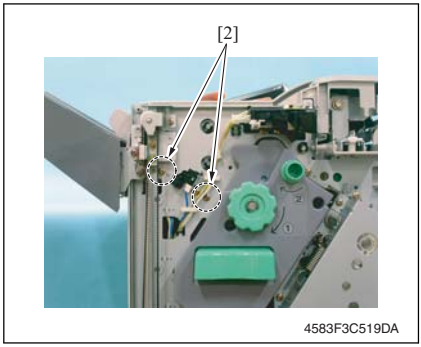
A. Checking the deviation amount

1. Load the Paper Take-up Tray with A3 paper.
2. Select “Fold & Staple” and touch “OK.”
3. Place the A3 Original (Blank paper acceptable) to the original tray, and press the Start key.
4. Check the fed out copy to see if there is any deviation.

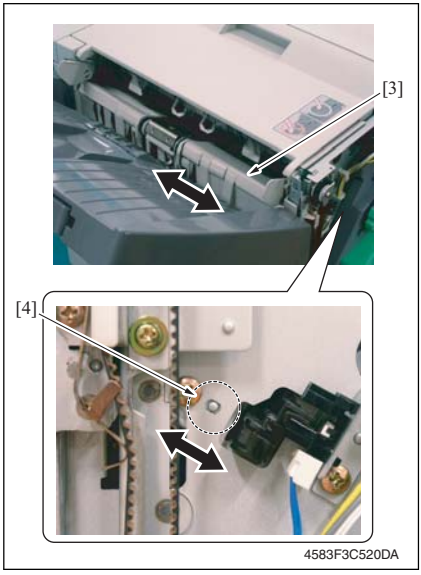


B. Adjusting the folding deviation

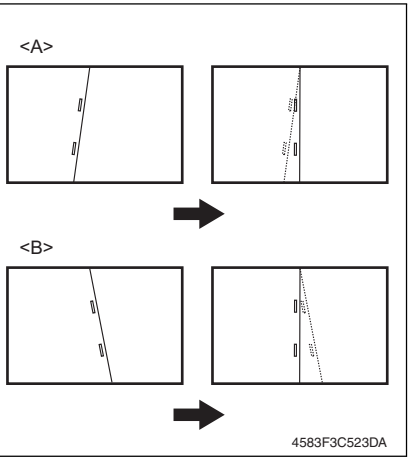
1. Turn main power switch OFF, and remove the Finisher from the machine.
2. Remove the cable, and remove the Horizontal Unit [1].



3. Remove the Middle Transport Unit.
☞ 10
4. Remove the front cover.
☞ 7
5. Loosen two screws [2] on the Tray Section.



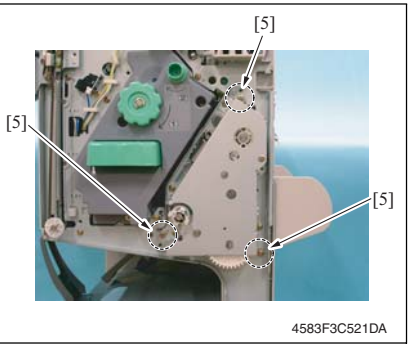
6. Move the Tray Section [3] back and forth, and move the positioning dowels [4] right and left to adjust.



- If it is deviated downward <A>, move the positioning dowels to the left.
- If it is deviated upward <B>, move the positioning dowels to the right.

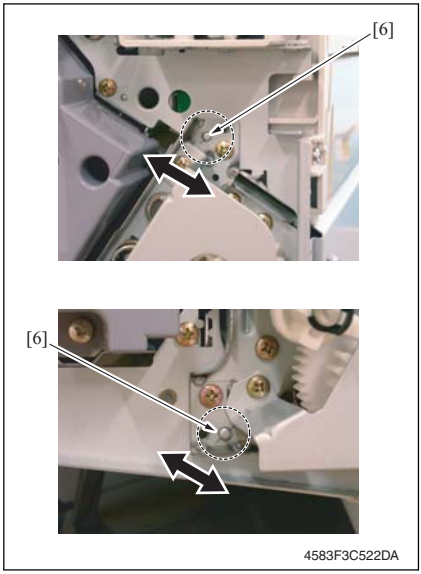
NOTE

- **The folding line will move along with the staples.**

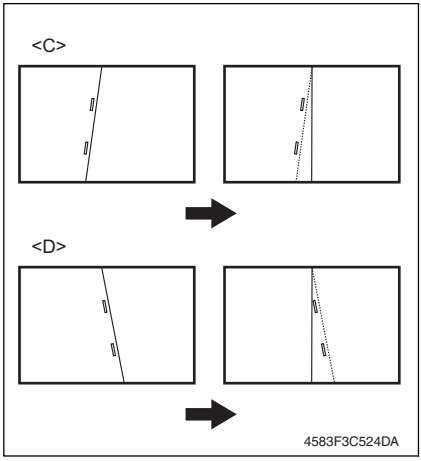


7. Carry out the test copy to see if there is any folding deviation.
If the deviation is not adjusted, repeat the procedure from Step 8 to adjust the Saddle Section position.

8. Loosen three set screws [5] on the Saddle Section.



9. Move the two positioning dowels [6] to adjust.



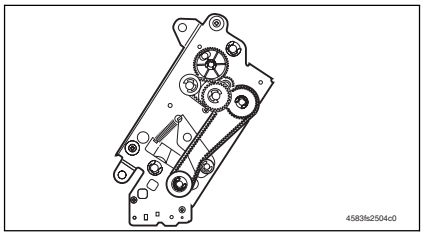
- If it is deviated downward <C>, move the positioning dowel to the left.
- If it is deviated upward <D>, move the positioning dowel to the right.

NOTE

- **Only the folding line will move.**

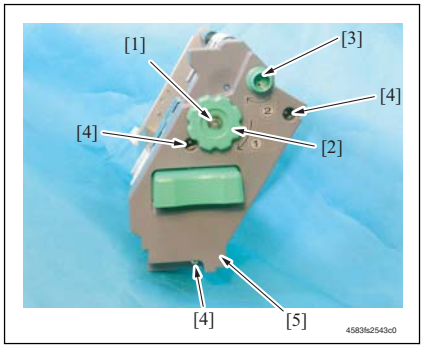
10. Feed out the test copy and check if there is any folding deviation.

5.5 Stapler Phase Adjustment



- Make phase adjustment of the Stapler following the procedures given below whenever the Gear or Timing Belt in front of the Stapler has been replaced or removed for some reason, since such replacement or removal will cause mistiming between the staple driving by the Staple Driver (the lower unit of the Stapler) and the staple clinching by the Staple Clincher (the upper unit of the Stapler).

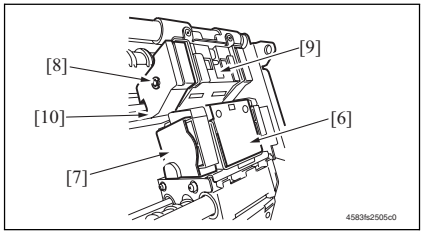
5.5.1 Adjustment procedure



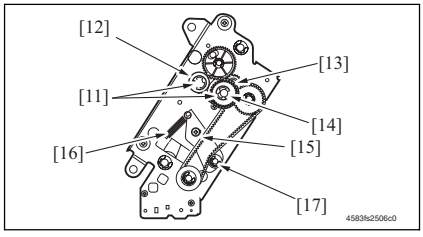
1. Remove the Stapler.

☞ 10

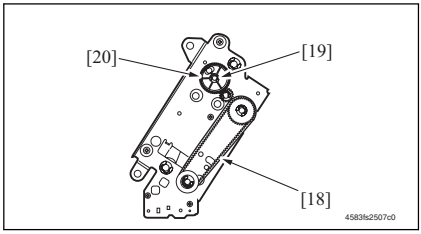
2. Remove the E-Ring [1], and remove the Jam Release Dial 1[2].
3. Remove the Jam Release Dial 2 [3].
4. Remove the three screws [4], and remove the Stapler Front Cover [5].



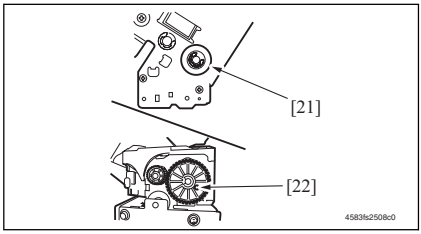
5. Remove the Gear Cover [7] from the Staple Driver [6].
6. Remove the E-Ring [8], and remove the Side Cover [10] from the Staple Clincher [9].



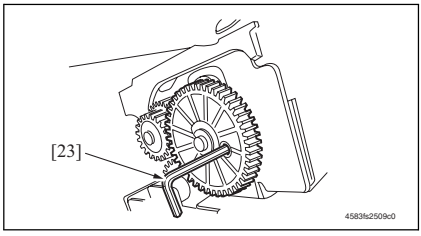
7. Remove two E-Rings [11], and remove the Staple Jam Release Gear [12], the Timing Belt [13] and the Middle Gear 1 [14].
8. Remove the spacer and the spring located behind the Staple Jam Release Gear.
9. Remove the screw [15] and the spring [16], and remove the Belt Tension Roller [17].



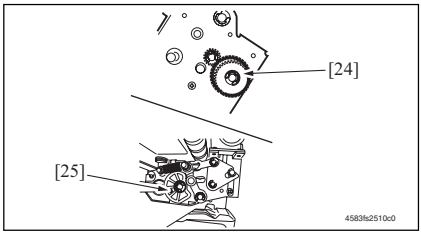
10. Remove the Timing Belt [18].
11. Remove the E-Ring [19], and remove the Staple Position Confirm Gear [20].



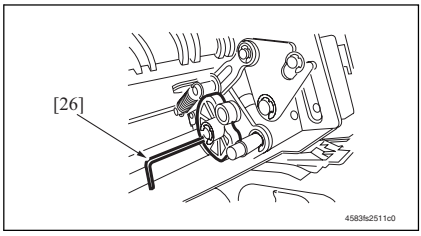
12. Turn the Gear [21] to position the hole [22] in the Gear of the Staple Driver to the hole behind.



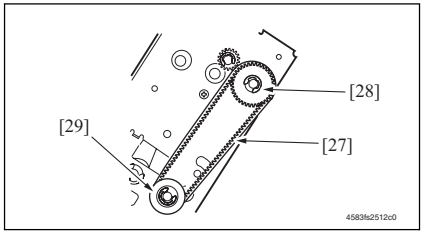
13. Insert a pin of approx.ϕ2 [23] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Gear.



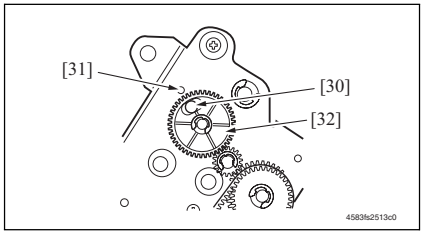
14. Turn the Gear [24] to position the hole [25] in the Cam of the Staple Clincher to the hole behind.



15. Insert a pin of approx.ϕ2 [26] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Cam.



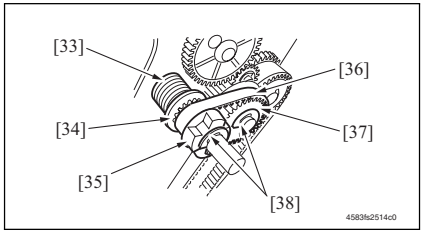
16. Set the Timing Belt [27] to the Gear [28] and Gear [29] with the Gear and the Cam in the fixed condition.



17. Install the Staple Position Confirm Gear [32] in such a way that the blue mark [30] of the Gear comes face to face with the hole [31] in the frame.

NOTE

- **The position in which the blue mark meets face to face with the hole is the home position for stapling. If the Staple Jam Release Gear is turned for some reason, this home position will shift and the Staple Cartridge will not come off. In this case, the Staple Position Confirm Gear plays a role of resuming the stapling home position by referring to the blue mark. Therefore, the Gear should be set in place correctly.**



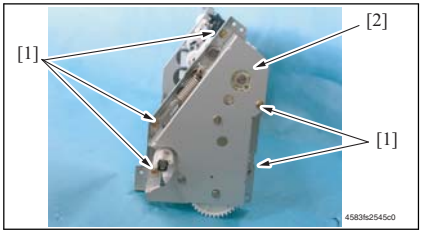
18. Remove the pin fixing the Gear and the Cam to release them.

19. Set the spring [33], the spacer [34], the Staple Jam Release Gear [35], the Timing Belt [36] and the Middle Gear 1 [37], and fix them with two E-Rings [38].

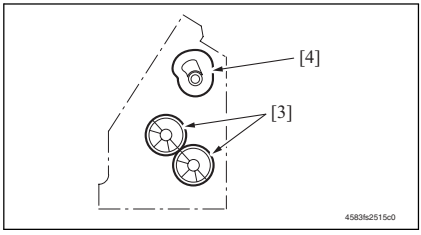
5.6 Saddle Gear Phase Adjustment

- Whenever the Gear in front of the Saddle or the Folding Roller has been replaced or removed for some reason, make gear phase adjustment following the procedures given below.

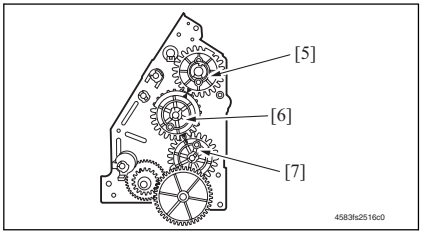
A. Adjustment procedure



1. Remove the Saddle.
☞ 11
2. Remove five screws [1], and remove the Saddle Gear Cover [2].



3. Set the Folding Roller [3] and Saddle Cam [4] within the Saddle as shown in the figure.
4. With the Folding Roller and the Saddle Cam positioned as shown in the Left figure, set the gears as shown in the figure in the following way.



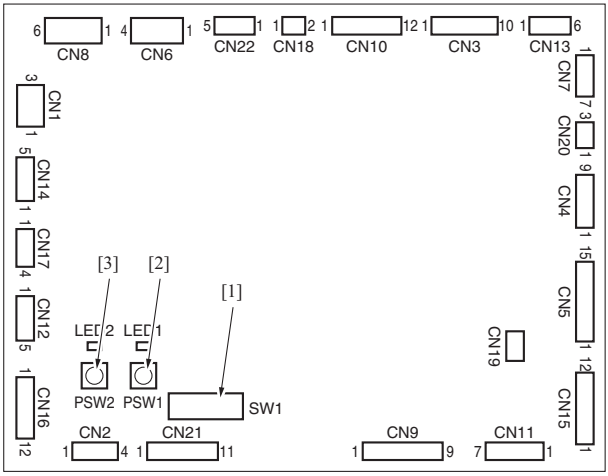
NOTE

- **The mark on the Saddle Cam Drive Gear [5] (either of the two marks) comes face to face with the mark on the Middle Gear [6] (the mark on the semi spherical part with narrow gear face width).**

5. With the Saddle Cam Drive Gear [5] and the Middle Gear [6] positioned as above, the mark on the Middle Gear [6] (the mark on the other semi spherical part) meets face to face with the rib of the Folding Roller Drive Gear [7].

6. Board switch

6.1 PWB-A FN (Finisher Control Board)



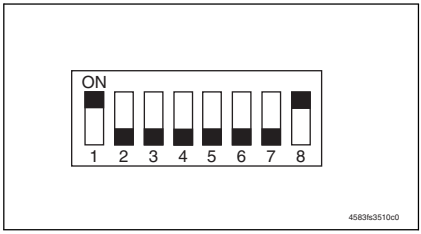
	Symbol	Description
1	SW1	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.
2	PSW1	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.
3	PSW2	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.

6.1.1 Adjustment of the folding positions

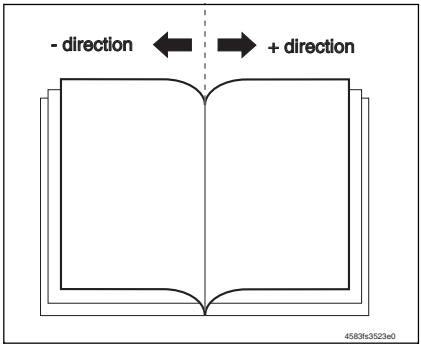
- When a folding position is adjusted, adjust the folding position to the stapling position. Make this adjustment after replacing the Finisher Control Board or when the folding position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of "Center Stapling Position" and "Folding Position" in the service mode to ± 0 mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the folding position. One pressing of the switch moves the folding position by approx. 0.16 mm.

- Press PSW1 to move the folding position in the "-" direction.
- Press PSW2 to move the folding position in the "+" direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the folding position, set all bits of SW1 on the Finisher Control Board to OFF.

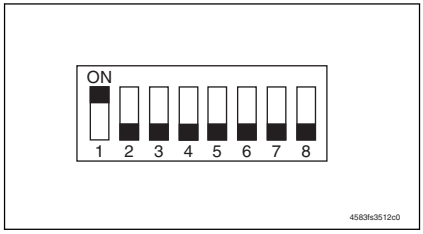
4. Perform the "Booklet Creation" on the main unit, and confirm that the folding position has been correctly adjusted. If not, redo the adjustment.

6.1.2 Adjustment of the center stapling position

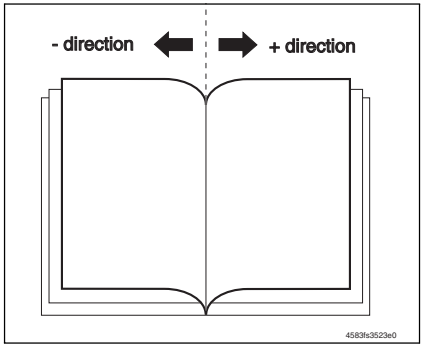
- When a stapling position is adjusted, adjust the stapling position to the folding position. Make this adjustment after replacing the Finisher Control Board or when the stapling position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of "Center Stapling Position" and "Folding Position" in the service mode to ± 0mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the stapling position. One pressing of the switch moves the stapling position by approx. 0.14 mm.

- Press PSW1 to move the stapling position in the "-" direction.
- Press PSW2 to move the stapling position in the "+" direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the stapling position, set all bits of SW1 on the Finisher Control Board to OFF.

4. Perform the "Booklet Creation" on the main unit, and confirm that the stapling position has been correctly adjusted. If not, redo the adjustment.

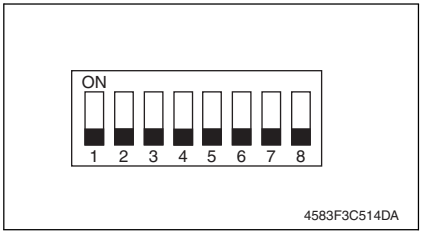
6.1.3 Adjustment of the Alignment Plate position

- Alignment plate should be adjusted when there is a faulty alignment, the staple position deviates.

A. Alignment procedure

NOTE

- **When failing to follow the steps properly, turn main power switch OFF/ON and repeat the step from Step 1.**



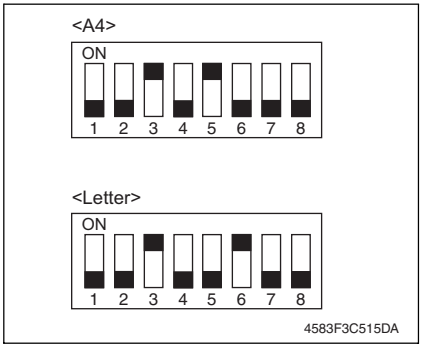
1. Turn main power switch OFF, and remove the Finisher from the machine.
2. Remove the rear cover form the Finisher.

☞ 7

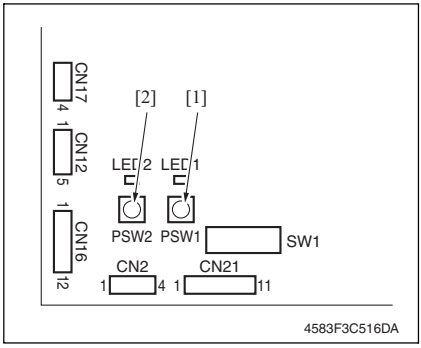
3. Check to make sure that all SW1 on the Finisher Controller Board are set to OFF.

NOTE

- **When not all of them are OFF, write down the switch status and turn them OFF.**

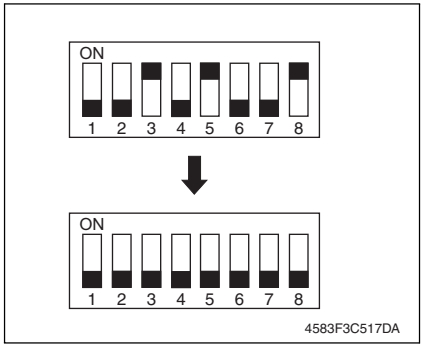


4. With the rear cover of the Finisher removed, install the Finisher to the machine, and turn main power switch ON.
5. When the initial operation of the Finisher is complete, turn on the following switches of SW1.
   When adjusting with A4: 3, 5
   When adjusting with Letter: 3, 6



6. After the initial operation of the Finisher, press the PSW1 [1] on the Finisher Control Board and make sure that the alignment plate moves to the selected paper size area.
7. Adjust the Alignment plate position with PSW1 [1] or PSW2 [2].
   When adjusting inward: Press PSW1.
   When adjusting outward: Press PSW2.

The alignment plate will move 0.367mm every time the push switch is pressed.
Alignment range is ± 2.936 mm.



8. When the adjustment is complete, turn switch 8 of SW1 ON to set the adjustment value.

9. Turn all adjustment switches OFF.

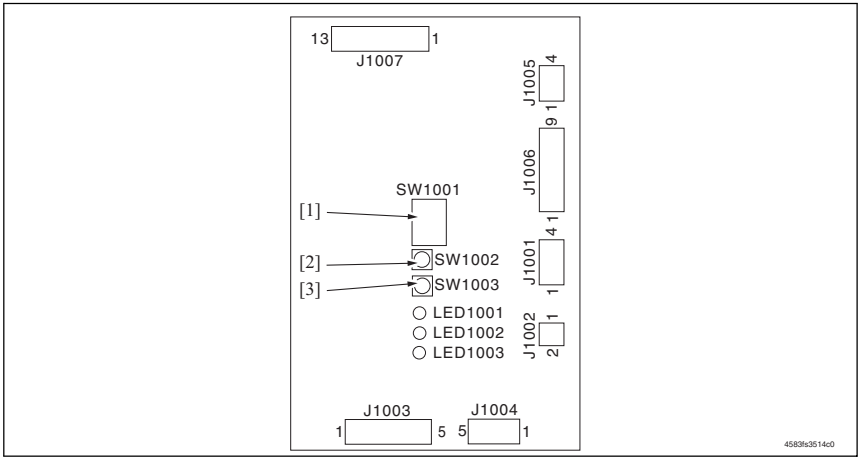
10. Turn main power switch OFF.

NOTE

- **When not all SW1 are OFF in step 3, return to the original condition according to the written note.**

11. Return the Finisher to the original status.

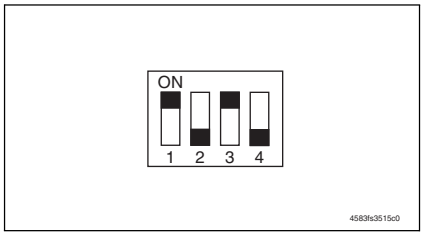
6.2 PWB-B PK (Punch Control Board)



	Symbol	Description
1	SW1001	Used to register the number of punched holes and adjust the sensor output.
2	SW1002	Used to register the number of punched holes and adjust the sensor output.
3	SW1003	Used to register the number of punched holes and adjust the sensor output.

6.2.1 Adjustment of the sensor output

- Be sure to make this adjustment after replacing the Punch Control Board, the Side Registration Sensor (Photosensor Board or LED Board) or the Punch Dust Full Sensor (Punch Dust Full Sensor Board or Punch Dust Full LED Board).

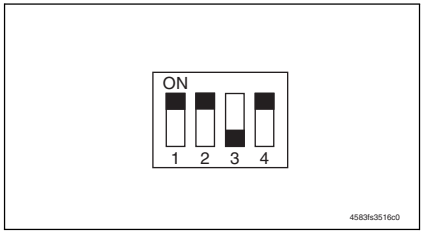


1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.
2. Press SW1002 or SW1003 on the Punch Control Board. The sensor output will be automatically adjusted.
- When all LED1001, LED1002 and LED1003 light up, the adjustment has been completed.

3. Set all bits of DIPSW1001 to OFF.

6.2.2 Registration of the number of punch holes

- In order for the Finisher to recognize the number of punch holes that can be achieved by the installed Punch Unit, such number of punch holes is registered in the IC on the Punch Control Board. Make this registration whenever the Punch Control Board has been replaced.
- However, this registration is not necessary if the EEP-ROM used on an old board has been reinstalled to a new board.



1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.

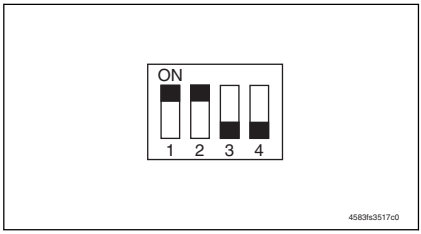
2. Press SW1002 on the Punch Control Board to select the number of punch holes.
- Each time SW1002 is pressed, the following display changes in the descending order shown below:

Number of punch holes	LED 1001	LED 1002	LED 1003
2 (Punch Unit J1)	ON	OFF	OFF
2/3 (Punch Unit K1)	ON	ON	OFF
4 (Punch Unit G1)	OFF	ON	OFF
4 (Punch Unit H1)	OFF	OFF	ON

3. Press SW1003 on the Punch Control Board twice. The number of punch holes will be registered in the Punch Control Board.
- The pressing of SW1003 changes the steady lighting of the LED to flickering, and the pressing of SW1003 again changes the flickering of the LED to steady lighting. This completes the registration.

4. Set all bits of DIPSW1001 to OFF.

6.2.3 Procedure after replacing the EEP-ROM (IC1002)



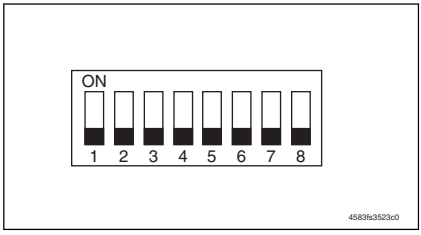
1. Turn OFF the Main Power Switch of the main unit.
2. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.Press SW1002 and SW1003 on the Punch Control Board simultaneously.

- This will initialize the EEP-ROM. After the initialization, all LED1001, LED1002 and LED1003 light up.

3. Adjust the sensor output, and register the number of punch holes.
4. Set all bits of DIP SW 1001 to OFF.

6.2.4 Punch center position adjustment

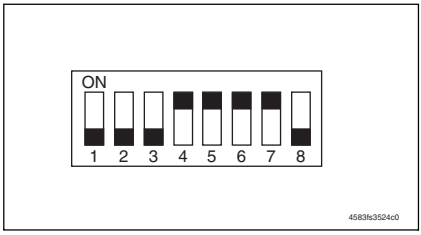
- This adjustment is made when the Punch lateral movement is changed from the lateral registration motion (automatic through end face detection) to fixed system based on the paper size.



1. Turn OFF the Main Power Switch of the main unit.
2. Remove the Rear Cover.

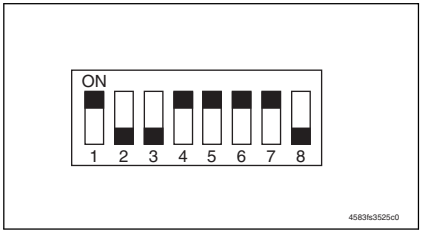
☞ 2-7

3. Check that all keys of SW1 of the Finisher Control Board are OFF.
4. Turn ON the Main Power Switch of the main unit and wait until the Finisher completes its initial operation.

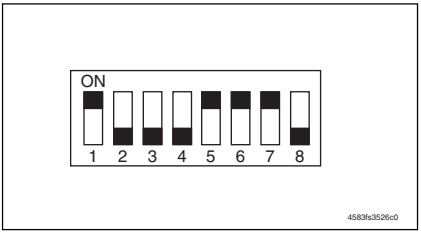


- Use the following procedure to clear the adjustment of the Punch lateral movement.

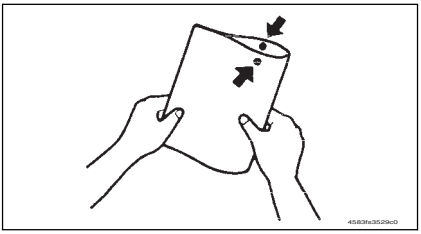
5. Turn ON keys 4, 5, 6, and 7 of SW1 of the Finisher Control Board.



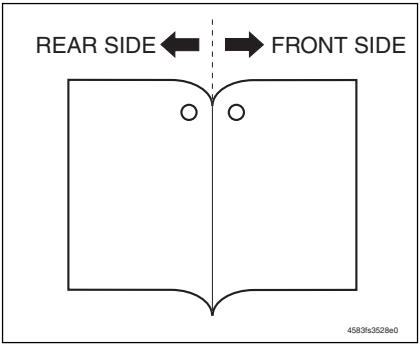
6. Turn ON key 1 of SW1 of the Finisher Control Board.
7. Press PSW1 and PSW2 of the Finisher Control Board at the same time.



8. Turn OFF key 4 of SW1 of the Finisher Control Board.
9. Wait until the machine becomes capable of paper feed.

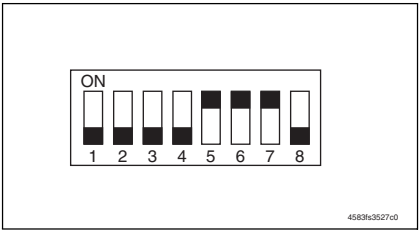


10. Feed one sheet of paper through the machine. Fold the copy fed out of the machine in half and check that the punch holes are aligned with each other.
Specifications:0 ± 2 mm
- If the specified range is not met, use the following procedure to adjust the Punch center position.



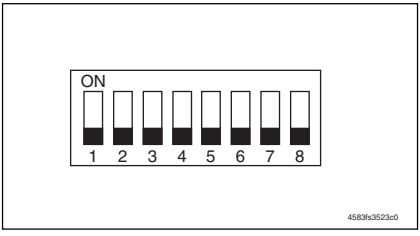
11. Press PSW1 or PSW2 of the Finisher Control Board once according to the direction of deviation.
- Pressing PSW1 moves the punch position to the front.
- Pressing PSW2 moves the punch position to the rear.
- Each press of PSW1 or PSW2 moves the position 1 mm. The adjustment range should be within ± 5 mm.

12. Feed another sheet of paper. If the punch hole position is not properly adjusted, make the adjustment once again.

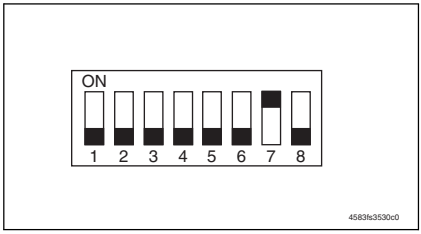


- When the adjustment procedure has been completed, use the following procedure to finish the adjustment mode.

13. Turn OFF key 1 of SW1 of the Finisher Control Board.



14. Turn OFF keys 5, 6, and 7 of SW1 of the Finisher Control Board.
15. Turn OFF the Main Power Switch of the main unit.



16. Turn ON key 7 of SW1 of the Finisher Control Board.

NOTES

- **Flipping ON key 7 of SW1 validates the setting made to the fixed system based on the paper size as changed from the lateral registration motion (automatic through end face detection).**
- **To return the setting back to the lateral registration motion, flip OFF key 7 of SW1.**

17. Turn ON the Main Power Switch of the main unit.

18. Reinstall the rear cover.

☞ 2-7

NOTE

- **The procedure must be carried out as specified. In particular, switching ON or OFF must be performed properly.**
- **If a step or steps are wrongly performed in mid procedure, stop the procedure immediately. Then, turn OFF and ON the Main Power Switch and start the procedure over.**
- **This adjustment is applicable only to the punch position center adjustment. The adjustment range is ± 5 mm. It does not adjust for variations in the punch hole positions.**

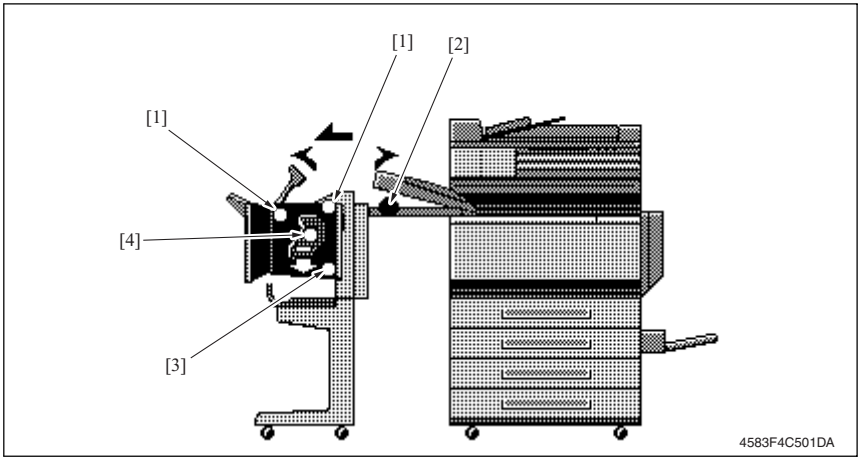
Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

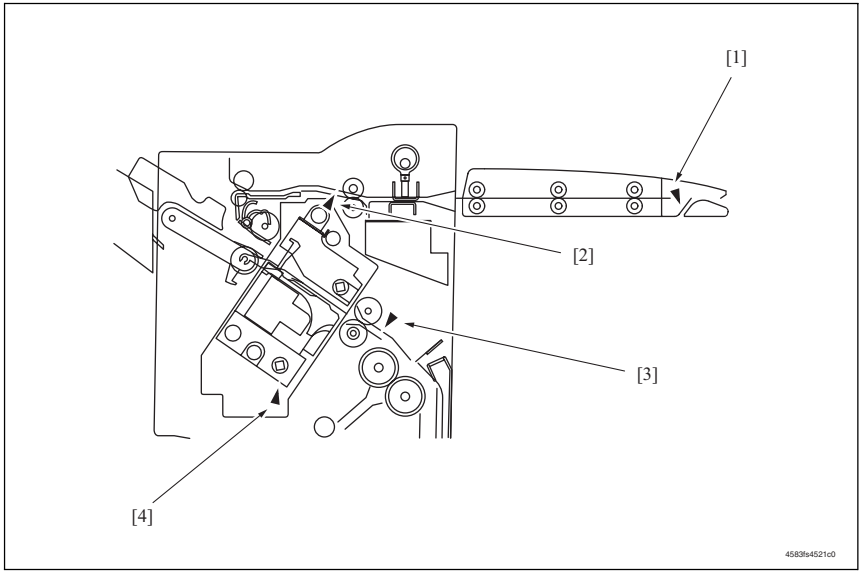


No.	Code	Misfeed location	Misfeed access location	Action
[1]	7401	Transport section	Front Door	☞ 53
[2]	7403	Horizontal Transport section	Horizontal Transport Cover	☞ 54
[3]	7407	Folding Position section	Front Door	☞ 54
[4]	7405	Stapler section	Front Door	☞ 55

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1]	Turnover Empty Sensor	PC6-HO	[3]	Folding Position Sensor	PI10-FN
[2]	Entrance Sensor	PI1-FN	[4]	Staple Drive Home Position Sensor	PI19-FN

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The Entrance Sensor (PI1-FN) does not detect paper even after the lapse of approx. 1.5 sec. after the Entrance Sensor (PI1-FN) has received the paper exit signal from the main unit.
	Paper is not removed from the Entrance Sensor (PI1-FN) even after the lapse of approx. 2 sec. after the Entrance Sensor (PI1-FN) has detected paper edge.

B. Action

Relevant electrical parts	
Entrance Sensor (PI1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI1-FN I/O, sensor check	PWB-A FN CN16A FN-11	FS-603 B-8
3	PWB-A FN replacement	—	—

7.3.3 Horizontal Transport section misfeed

A. Detection timing

Type	Description
horizontal transport section misfeed detection	The Turnover Empty Sensor (PC6-HO) is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Turnover Empty Sensor (PC6-HO).

B. Action

Relevant electrical parts	
Turnover Empty Sensor (PC6-HO)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC6-HO I/O, sensor check	PWB-A FN CN21A FN-5	FS-603 G-7
3	PWB-A FN replacement	—	—

7.3.4 Folding position section misfeed

A. Detection timing

Type	Description
Folding position section misfeed detection	The Folding Position Sensor (PI10-FN) does not detect paper even after the set period of time after the paper has been fed from the Transport Booklet Tray to the stapling position during stapling operation.
	Paper is not removed from the Folding Position Sensor (PI10-FN) even after the lapse of approx. 10.5 sec. after the Staple/Folding Motor (M7-FN) has been driven during stapling operation.

B. Action

Relevant electrical parts	
Folding Position Sensor (PI10-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI10-FN I/O, sensor check	PWB-A FN CN16A FN-2	FS-603 8-B
3	PWB-A FN replacement	—	—

7.3.5 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Staple Drive Home Position Sensor (PI19-FN) is not turned OFF or does not return to its home position even after the set period of time after the stapler has been driven.

B. Action

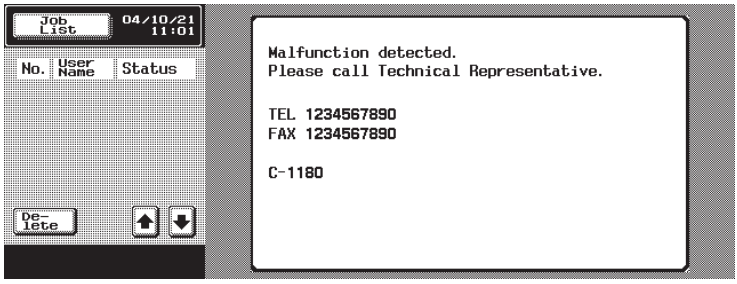
Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI19-FN I/O, sensor check	—	—
3	PWB-A FN replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4583F4E504DA

NOTE

- **Before starting the troubleshooting in relation to the Punch Mechanism C11CX, be sure to turn OFF the main power switch of the machine.**

8.2 Trouble code list

Code	Item	Description
C1180	Transport System Drive malfunctions	• The Folding Roller Home Position Sensor (PI12-FN) is not unblocked even after the lapse of a given period of time after the Folding Roller has started moving from its home position. • The Folding Roller Home Position Sensor (PI12-FN) is not blocked even after the lapse of a given period of time after the Folding Roller has started moving from a position not the home position.
C1181	Paddle Motor malfunctions	• The Paddle Home Position Sensor (PI2-FN) is not unblocked even after the lapse of a given period of time after the Paddle has started moving from its home position. • The Paddle Home Position Sensor (PI2-FN) is not blocked even after the lapse of a given period of time after the Paddle has started moving from a position not the home position. • The Swing Guide Home Position Sensor (PI3-FN) is not unblocked even after the lapse of a given period of time after the Booklet Roller has started moving from its home position. • The Swing Guide Home Position Sensor (PI3-FN) is not blocked even after the lapse of a given period of time after the Booklet Roller has started moving from a position not the home position.

Code	Item	Description
C1183	Elevate Mechanism malfunctions	• The Exit Tray Home Position Sensor (PI9-FN) is not blocked even after the lapse of a given period of time after the tray has started moving up. • An encoder clock input is not detected within a given period of time during operation of the tray.
C1192	Front Aligning Plate Motor malfunctions	• The Front Aligning Plate Home Position Sensor (PI4-FN) is not unblocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from its home position to a position out of the home position. • The Front Aligning Plate Home Position Sensor (PI4-FN) is not blocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from a position out of the home position to the home position.
C1193	Rear Aligning Plate Motor malfunctions	• The Rear Aligning Plate Home Position Sensor (PI5-FN) is not unblocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from its home position to a position out of the home position. • The Rear Aligning Plate Home Position Sensor (PI5-FN) is not blocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from a position out of the home position to the home position.
C11A4	Booklet Exit Motor malfunctions	• The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an ordinary operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an ordinary operation.
C11B1	Stapler Unit Slide Motor malfunctions	• The Slide Home Position Sensor (PI18-FN) is not unblocked even after the lapse of a given period of time after the Stapler Unit has started moving from its home position. • The Slide Home Position Sensor (PI18-FN) is not blocked even after the lapse of a given period of time after the Stapler Unit has started moving from a position not the home position.

Code	Item	Description
C11B4	Stapler/Folding Motor malfunctions	• The Staple Drive Home Position Sensor (PI19-FN) is not blocked even after the lapse of a given period of time after the clinch operation has started. • An encoder clock input is not detected within a given period of time during a clinch operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after the Folding Unit has started moving from a position out of the home position during an initial operation. • The Folding Home Position Sensor (PI11-FN) is not unblocked even after the lapse of a given period of time after a folding operation has been started during an ordinary operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after a folding operation has been started and the sensor has been unblocked during an ordinary operation. • An encoder clock input is not detected within a given period of time during a folding operation.
C11C1	Punch Control Board malfunctions	• No response is received to a request made by the Finisher within a given period of time during initial communications. • No response is received to a request made by the Finisher within a given period of time during ordinary communications. • There is no match in the checksum values of the backup data as checked twice. • The 24 V power source of the Punch Unit is OFF when an operation request is made from the Finisher.
C11C2	Punch Side Registration Motor malfunctions	• The Side Registration Home Sensor (PI2P-PK) is not unblocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from its home position. • The Side Registration Home Sensor (PI2P-PK) is not blocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from a position not the home position.
C11C3	Punch Motor malfunctions	• The home position is not detected within a given period of time after the Punch Motor has been rotated a half turn. • An encoder clock input is not detected even after the lapse of a given period of time during operation of the Punch Motor. • The setting value calculated during the initial operation falls outside the threshold value range.
C11C5	Punch Sensor malfunctions	• The light receiving voltage is 2.5 V or less when the illuminating voltage is set to 4.4 V. • The light receiving voltage is 2.5 V or more when the illuminating voltage is set to 0 V. • The illuminating voltage setting is 4.4 V or more after the adjustment has been made.

Code	Item	Description
C1401	Backup RAM malfunction	• Data written in the Backup Memory differs from what is recorded in it and writing operation is not correctly performed even with two retry sequences (a total of three writing sequences).

NOTE

- **The Punch Unit detects punch-related malfunctions and notifies the Finisher of any malfunction detected.**

8.2.1 How to reset

- Open and close the Front Door or turn OFF and ON the Main Power Switch.

8.3 Solution

8.3.1 C1180: Transport System Drive malfunctions

Relevant electrical parts	
Folding Roller Home Position Sensor (PI12-FN) Transport Motor (M1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI12-FN I/O, sensor check	PWB-A FN CN16A FN-9	G-3
4	M1-FN operation check when the Main Power Switch is turned OFF and ON.	—	—
5	PWB-A FN replacement	—	—

8.3.2 C1181: Paddle Motor malfunctions

Relevant electrical parts	
Paddle Home Position Sensor (PI2-FN) Swing Guide Home Position Sensor (PI3-FN) Paddle Motor (M2-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI2-FN I/O, sensor check	PWB-A FN CN9A FN-2	FS-603 G-8
4	PI3-FN I/O, sensor check	PWB-A FN CN9A FN-8	FS-603 G-9
5	M2-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN10A FN-9 to 12	FS-603 B-6
6	PWB-A FN replacement	—	—

8.3.3 C1183: Elevate Mechanism malfunctions

(1) Upper Limit Sensor

Relevant electrical parts	
Shift Upper Limit Sensor (PI15-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI15-FN I/O, sensor check	PWB-A FN CN15A FN-12	FS-603 G-5
3	PWB-A FN replacement	—	—

8.3.4 C1192: Front Aligning Plate Motor malfunctions

Relevant electrical parts	
Front Aligning Plate Home Position Sensor (PI4-FN) Front Aligning Motor (M4-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI4-FN I/O, sensor check	PWB-A FN CN4A FN-2	FS-603 G-6
4	M4-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN3A FN-2 to 5	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.5 C1193: Rear Aligning Plate Motor malfunctions

Relevant electrical parts	
Rear Aligning Plate Home Position Sensor (PI5-FN) Rear Aligning Motor (M5-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI5-FN I/O, sensor check	PWB-A FN CN5A FN-15	FS-603 G-6
4	M5-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN3A FN-7 to 10	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.6 C11A4: Booklet Exit Motor malfunctions

Relevant electrical parts	
Exit Belt Home Position Sensor (PI7-FN) Exit Motor (M3-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI7-FN I/O, sensor check	PWB-A FN CN5 FN-6	FS-603 G-5
4	M3-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN13A FN-3 to 6	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.7 C11B1: Stapler Unit Slide Motor malfunctions

Relevant electrical parts	
Slide Home Position Sensor (PI18-FN) Slide Motor (M8-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI18-FN I/O, sensor check	PWB-A FN CN11A FN-3	FS-603 B to C-5
4	M8-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN7A FN-3 to 6	FS-603 B-5
5	PWB-A FN replacement	—	—

8.3.8 C11B4: Stapler/Folding Motor malfunctions

(1) Wiring

Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI19-FN I/O, sensor check	—	—
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-3 to 4	FS-603 B-3
5	PWB-A FN replacement	—	—

(2) Stapler/Crease Clock Sensor (Stapler Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI14-FN I/O, sensor check	PWB-A FN CN9A FN-5	FS-603 G-8
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-3 to 4	FS-603 B-3
5	PWB-A FN replacement	—	—

(3) Home Position Sensor

Relevant electrical parts	
Folding Home Position Sensor (PI11-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI11-FN I/O, sensor check	PWB-A FN CN16A FN-6	FS-603 B-8
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-3 to 4	FS-603 B-3
5	PWB-A FN replacement	—	—

(4) Stapler/Crease Clock Sensor (Saddle Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI14-FN I/O, sensor check	PWB-A FN CN9A FN-5	FS-603 G-8
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-3 to 4	FS-603 B-3
5	PWB-A FN replacement	—	—

8.3.9 C11C1: Punch Control Board malfunctions

Relevant electrical parts	
Finisher Control Board (PWB-A FN) Punch Control Board (PWB-B PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn OFF and ON the main switch.	—	—
2	Check the connection condition between the Punch Unit and PWB-A FN.	—	—
3	Measure the voltage between CN14-5 (+) and CN14-3 (-) of the PWB-A FN. Is the voltage 24VDC?	—	—
4	Initialize Punch Unit EEP-ROM.	—	—
5	PWB-B PK replacement	—	—
6	PWB-A FN replacement	—	—

8.3.10 C11C2: Punch Side Registration Motor malfunctions

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI2P-PK I/O, sensor check	PWB-B PK J1006B PK-3	FS-603 H-2
3	PWB-B PK replacement	—	—

8.3.11 C11C3: Punch Motor malfunctions

Relevant electrical parts	
Punch Home Position Sensor (PI1P-PK) Punch Motor Clock Sensor (PI3P-PK) Punch Motor (M1P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI1P-PK I/O, sensor check	PWB-B PK J1006B PK-6	FS-603 H-2
4	PI3P-PK I/O, sensor check	PWB-B PK J1006B PK-9	FS-603 H-2
5	M1P-PK operation check when the Main Power Switch is turned OFF and ON.	PWB-B PK J1002B PK-1 to 2	FS-603 H-1 to 2
6	PWB-B PK replacement	—	—

8.3.12 C11C5: Punch Sensor malfunctions

(1) Side Registration Sensor

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI2P-PK I/O, sensor check	PWB-B PK J1006B PK-3	FS-603 H-2
3	PWB-B PK replacement	—	—

(2) Wastes Full Sensor

Relevant electrical parts	
Punch Control Board (PWB-B PK) Punch Trash Full Photo Sensor Board (PWB-E PK) Punch Trash Full LED Board (PWB-F PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connection condition between PWB-B PK and PWB-E PK.	—	—
2	Check the connection condition between PWB-B PK and PWB-F PK.	—	—
3	PWB-E PK replacement	—	—
4	PWB-F PK replacement	—	—
5	PWB-B PK replacement	—	—

(3) Finisher Control Board

Relevant electrical parts	
Exit Tray Home Position Sensor (PI9-FN) Shift Motor Clock Sensor (PI17-FN) Shift Motor (M6-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI9-FN I/O sensor check	PWB-A FN CN5A FN-12	FS-603 G-6
4	PI17-FN I/O sensor check	PWB-A FN CN15A FN-6	FS-603 G-4
5	M6-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
6	PWB-A FN replacement	—	—

8.3.13 C1401: Backup RAM malfunction

Relevant electrical parts	
Finisher Control Board (PWB-A FN)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord to turn OFF and ON the main switch.	—	—
2	Check the connectors for proper connection on the PWB-A FN.	—	—
3	PWB-A FN replacement	—	—

© 2005 KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

Printed in Japan
DD4037PE1-0800